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6.3 BIOLOGICAL RESOURCES

This section describes the biological resources that are reported and/or that may have potential to occur within the Property. This section also provides baseline information for the environmental setting of the Project Site by describing biological resources known from geographical areas and features located in the immediate vicinity and in the greater regional setting of the Project Site. The purpose of this approach is to provide a context for assessing the potentials for similarities and differences in habitat attributes between the Project Site and these regional areas and, thereby, assess the potentials for occurrences of sensitive biological resources on the Project Site, or that could otherwise be affected by installation of the Project. Information pertaining to biological resources within the greater regional setting of the Project Site was obtained through a literature review that included a review of databases on sensitive biological information maintained by the California Department of Fish and Game's (CDFG) Natural Diversity Database (CDFG 2006), through coordination with the U.S. Fish and Wildlife Service (USFWS), and from field surveys.

6.3.1 Affected Environment

The Project region is defined as the 160-acre Property, and those areas within 5 miles (Figure 6.3-1, California Natural Diversity Database). The total disturbed area of the Project, including temporary construction areas, will be approximately 26 acres, with the final Project located on approximately 22 acres. Raw water, domestic water, and fire water supply interconnects occur within the boundaries of the site. Transmission line corridors extend out from the Niland Substation along the south and west sides of the property. Natural gas will be supplied from one of two parallel Southern California Gas main pipelines that run along the east side of the Property. The pipeline will be tapped immediately north of a regulating station that reduces the pressure of natural gas flowing farther south. A new natural gas lateral pipeline will be routed west along Beal Road and then turn north into the metering station on the Project Site. The lateral is approximately 1800 feet long. An existing Niland potable water main runs diagonally from the northeast to the southwest across the north half of the property. A lateral to serve the Project will connect to the line near the center of the Property and run to the Project Site. The lateral is approximately 700 feet long. New stormwater basins will be located along the south and west edges of the Project Site.

The vegetation communities, wildlife, sensitive species, and habitats associated with the Project Site, the Project region, and the greater regional setting of the Project Site, are described in the various following sections. These areas are defined as they are introduced.

6.3.1.1 Regional Overview

The Project Site is located adjacent to the developed suburban Town of Niland to the southwest and the agricultural lands of the upper Imperial Valley to the south and west. Farther to the west is the Salton Sea (Figure 6.3-1, California Natural Diversity Database). Natural desert areas occur to the east of the Project Site and are best represented on the Chocolate Mountains Gunnery Range. These areas do have various levels of land disturbances associated with irrigation water supply canals including the Coachella Canal and the East Highline Canal, offroad vehicle use, military activity on the range, and an influx of people during spring and

winter to an unauthorized campground at the site of the old military base Camp Dunlap. Within the agricultural production areas, the potential for biological resources richness and abundance have been greatly reduced from the historic natural assemblages of native desert plants and wildlife that occurred in this region over a century ago. Supplanting this historic condition is a new assemblage of mixed non-native and native wildlife species that are adapted to the niches provided by urban and agricultural environments. For some species, such as burrowing owl, mountain plover, herons, and egrets, the high productivity of insect biomass and the ready availability of water and fish in the miles of irrigation canals and ditches, has provided a substantial ecological benefit for sustaining their local populations and migrations. The natural desert areas continue to support the same types of vegetation communities and wildlife habitats as occurred there prior to development and military activity. Species such as desert tortoise (*Gopherus agassizii*) and Nelson's bighorn sheep (*Ovis canadensis nelsoni*) occupy the range to the east of the Coachella Canal; however, occurrence potentials westward of the canal are remote because the canal constitutes a barrier to movement. These subjects introduced above, are described in greater detail in the sections that follow.

Sensitive Biological Resources of the Project Region

Sensitive biological resources include sensitive natural plant communities, wildlife habitats, and special status species. The Project region, which is the immediate region surrounding the Project Site within an approximate 5-mile radius, is considered to include: (1) the valley floor with its associated agricultural fields and irrigation systems (i.e., canals and ditches) to the south and west; and (2) the East Mesa area to the north and east. There has been a long history of land alteration in the Project region including agricultural development, irrigation water delivery system development (e.g., the Coachella Canal and East Highline Canal), and historic (i.e., Camp Dunlap) and ongoing (i.e., Chocolate Mountains Gunnery Range) military activities. Crop cultivation and irrigation practices have altered the native soil condition and, thus, substantially reduced its capacity to support rare desert plant species in that portion of the Project region. Also, proliferation of several persistent weed species has displaced and largely eliminated the potential for rare native desert plants to compete, reproduce, and recruit from the soil seed bank. Although these agricultural areas have replaced the native habitats from over a century ago, they have created habitat opportunities for species such as desert pupfish, Colorado River toad, California black rail, and Yuma clapper rail, that are adapted to aquatic and marsh habitat within drains. Relatedly, the creation of marsh and aquatic habitat areas at the Imperial State Wildlife Area Wister Unit with water supplied by the East Highline Canal, and the creation of marsh habitat areas associated with seepage from the Coachella Canal, has provided opportunities for rail species. The East Mesa area, from the Project Site northward and westward, can be considered relatively natural habitat, although it is in various levels of disturbance moving from area to area.

The greater regional setting for the Project Site can be considered to include the following geographical areas and features:

- The Salton Sea is located about 5 miles to the west. About 12 miles to the southwest, the USFWS maintains a wildlife preserve and management area named the Salton Sea National Wildlife Refuge. The CDFG maintains a preserve to the southeast located on the Alamo River named the Imperial Waterfowl Management Area – Finney-Ramer Unit.

- The Imperial State Wildlife Area – Wister Unit is located about 5 miles to the northwest with several large managed ponds established by the CDFG for creation of aquatic and marsh habitat for migratory and over-wintering waterfowl and other water bird usage.
- The variously disturbed and relatively undisturbed portions of Sonoran desert scrub, saltbush scrub, and desert wash scrub and woodland communities of the East Mesa area are located less than 1 mile to the east, at the approximate limit of the East Highline Canal and extend farther eastward and northward into the Chocolate Mountains Gunnery Range (Range) at the approximate limit of the Coachella Canal.
- The Chocolate Mountains and the westward sloping alluvial fans and desert ephemeral drainages within the range are located eastward of the Coachella Canal. This area, despite military activity, is probably the highest quality natural desert habitat in the Project region.
- The expanse of mixed agricultural land and communities, including Niland, Calipatria, Brawley, El Centro, Holtville, Imperial, and Calexico proceed about 40 miles within the Imperial Valley to the southern international boundary (SIB) with Mexico at the approximate limits of the All American Canal. Within Mexico for a distance about 50 miles southward of the SIB, the mosaic of agricultural land, communities, and desert habitat is patterned somewhat irregularly and the land is utilized with differing intensity from what occurs in the United States. This condition generally persists southward to the wetland, riverine, and intertidal marsh areas located in the greater region of the Colorado River Delta/northern Sea of Cortez ecosystem (about 60 miles south of the SIB).
- The Algodones Dunes area that includes the sand hills located southward of Mammoth Wash is located about 12 miles southeast of the Project Site, and extends in a southeast trending direction thereafter to the SIB for approximately another 40 miles.
- The Colorado River is located about 56 miles to the southeast. It is noted that the river has a unique ecological affect upon the Imperial Valley, the Salton Sea, and the vicinity of the Coachella Canal because of the importation of millions of acre-feet of irrigation water, the subsequent drainage patterns of this water, and the resultant creation and perpetuation of aquatic, wetland, riparian, and phreatophytic habitat types within the valley and at the sea, and along the canal as a consequence of seepage.

Sensitive ecological resources within the greater regional setting of the Project Site are briefly discussed in Section 6.3.1.2, Areas of Biological Sensitivity Within the Greater Regional Setting of the Project Site.

This section primarily focuses on assessing biological resources within the East Mesa and adjacent Chocolate Mountains alluvial fan portions of the Project region and less so on the agricultural area of the Imperial Valley, the Salton Sea, the Chocolate Mountains, the Colorado River, and the Algodones Dunes. This discretionary focus is based on two primary considerations: (1) the mostly dissimilar character of the habitat attributes of those areas with those of the Project Site (i.e., no aquatic areas, no agricultural drains, no rocky mountain and canyon areas, and no sand dunes or sand fields are present); and (2) the large distances of some of these areas from the Project Site and the corresponding diminishing ecological influences they may have upon the Project Site. Therefore, the primary considerations used in this section for assessing the potential for occurrences of sensitive biological resources on the Project Site are: (1) similarities in habitat attributes on site to those in adjacent areas that may serve as attracting

factors for sensitive wildlife species; and (2) the proximity of the site to reported occurrences and to utilized habitats in the adjacent areas that may provide translocational opportunities. An example of (1) and (2) would be the suite of sensitive riparian bird species (i.e., yellow-breasted chat, yellow warbler, least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo) that may rarely occur on site on a transient basis during migrations and/or during translocational movements (such as between the Colorado River and the Wister Unit), but are not considered likely to persist on site for extended periods for foraging and breeding purposes.

A brief discussion of the geologic setting and history of the Project Site in the context of the greater regional setting is provided because it explains the site conditions that support the vegetation and wildlife habitat present. The Project Site occurs within the Salton Trough, which is a topographic and structural trough and a terminal sink basin that extends from southeastern California into Mexico. The Salton Trough is divided into two parts by the Salton Sea – the Imperial Valley to the south and the Coachella Valley to the north. The Imperial Valley is the largest area of desert irrigation development in the United States. The Salton Trough is about 130 miles long and as great as 70 miles wide. The trough is a landward extension of the depression that is partially filled by the Gulf of California (Sea of Cortez). The trough and gulf are separated by the broad fan-shaped sub-aerial delta of the Colorado River. Much of the land surface of the trough is below sea level and, before the delta was formed, the gulf extended as far north as the city of Indio in the Coachella Valley. The lowest part of the trough is occupied by the Salton Sea, whose surface is at an elevation of more than 200 feet bsl. Most of the surface drainage is intermittent and is toward the Salton Sea in the central part of the valley.

The Salton Trough was once occupied by prehistoric Lake Cahuilla which was created when sediment from the Colorado River created an expansive delta that cut off the upper trough from the gulf. The central part of the Imperial Valley is a large area of cultivated land entirely within the shorelines of prehistoric Lake Cahuilla. Lake Cahuilla has undergone several elevational and surface area extent changes over geologic time. The most recent lake level changes are evident in the eastern and western parts of the trough where hydrogeological indicators of several ancient lake shorelines are at elevations of 42 to 50 feet above sea level. This phenomenon is readily apparent upon inspection of the USGS 7.5-minute series Iris Wash and Iris quadrangles where the topographic contours clearly indicate a lake high-water shoreline at the 40 to 50 foot intervals. Here, the dissected patterns of alluvial deposition due to sediment transport in washes from the Chocolate Mountains to the northeast, and irregular patterns of mounds (likely indicators of relictual shoreline dunes), abruptly change to more even contours indicative of the ancient lakebeds and seabed. The Project Site occurs about 1.5 miles southwest and down-gradient of this shoreline, and at about 100 feet below sea level. Near the margins of the Imperial Valley, the basin-fill deposits were derived from the adjacent mountains and are mostly coarse sand and gravel. Deposits in the central part of the valley consist mostly of fine-grained sand, silt, and clay that were deposited by the Colorado River (USGS 2006).

On the basis of the above discussion, the geologic and soils characteristics of the site have been largely determined by geologic and hydrologic events such as saltwater inundation, lakewater inundation, silty lacustrine deposits from the Colorado River sediment source, and alluvial deposition from the Chocolate Mountains. As such, the site represents an interface of ancient lakebeds and seabeds and more recent hydrogeologic alluvial deposition. It is noted regarding the latter, that the construction of the Coachella Canal over 50 years ago, has curtailed much of the pre-existing alluvial transport patterns in the Project region by restricting the flow of major

washes into siphons. Together with the East Highline Canal, the two canals constitute barriers and the potential for alluvial transport onto the site is now restricted. Relatedly, with the two canals truncating the natural drainage patterns of the Project region, the site drainages constitute relicts of the historic hydrology with lesser potential for flow capacity and sediment conveyance and deposition. As a result of the influences described above, the Project Site represents an intergradation between the desert scrub and desert wash habitat conditions that occur eastward of the Coachella Canal, and the saltbush scrub and alkali sink scrub habitat conditions that occur adjacent to the Salton Sea.

Special Status Species of the Region

Several special status plant and wildlife species have recorded historical and recent occurrences reported from the Project region. These species are included in Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, for plants and Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, for wildlife. These tables provide information on the currently presumed occurrence status for these species in the region of the Project as well as assessments of the potential for occurrences on the Project Site. Recorded historical and expected range distributions for several plant and animal species reported by the California Natural Diversity Database (CNDDB) are depicted in Figure 6.3-1, California Natural Diversity Database.

Sensitive Plant Communities of the Project Region

Sensitive natural desert plant communities on the valley floor in the Project region have likely been extirpated and/or greatly reduced to relictual stands due to historic agricultural development. Within the East Mesa and Chocolate Mountains alluvial fan portions of the Project region, the desert scrub, desert wash, and saltbush scrub vegetation and habitat types are in a relatively natural condition, although subject to various types of human disturbances such as military activity, off-road vehicle use, canal construction and maintenance, etc. An interesting consequence of seepage from the Coachella Canal has been the resultant establishment of phreatophtic and desert wash plant assemblages that include mesquite (*Prosopis* spp.), ironwood (*Olneya tesota*), palo verde (*Cercidium* spp.), smoke tree (*Dalea spinosa*), and the non-native invasive salt cedar (*Tamarix* spp.), as well as areas of surface flow and inundated soils supporting freshwater marsh.

Within the environmental context of the East Mesa and Chocolate Mountains alluvial fan, these phreatophytic, desert wash, and wetlands constitute high quality habitat areas for resident and migratory species of wildlife. It is noted that the Project Site does not currently support, nor is it considered to have the capacity to support, these sensitive natural vegetation and habitat types and plant assemblages. Relatedly, with the absence of these vegetation/habitat types on site, the potential for occurrences is correspondingly low for common species of plants and wildlife that are associated with such vegetation/habitat types. The mixed Sonoran desert scrub and saltbush scrub vegetation/habitat type on the Project Site is not considered to represent a sensitive plant community in either a site-specific or a regional context as discussed below.

TABLE 6.3-1
POTENTIALLY OCCURRING SPECIAL-STATUS PLANT SPECIES IN THE SITE VICINITY[1]

Species	Status	Closest Documented Locations of Occurrence	Year of Documented Occurrence	Potential for Occurrence On Site
Abrams's spurge *Chamaesyce abramsiana*	2	Niland and Wister vicinities	1912	Very low. Preferred habitat of sandy sites within desert scrub vegetation basically absent on site.
Sand food *Pholisma sonorae*	1B	Mammoth Wash and Algodones Dunes area	1980	Discountable because suitable sand dune habitat is not present.
Munz's cholla *Opuntia munzii*	1B	Upper bajadas on the Chocolate Mountains Gunnery Range	1998	Discountable. Suitable habitat of sandy and gravelly soils of washes and along canyon walls of mountain ranges not present on site.
Peirson's milk-vetch *Astragalus magdalenae* var. *peirsonii*	FT/SE/1B	Algodones Dunes area	2005	Discountable because suitable sand dune habitat is not present.
Giant Spanish-needle *Palafoxia arida* var. *gigantea*	1B	Algodones Dunes area	2005	Discountable because suitable sand dune habitat is not present.
Wiggin's croton *Croton wigginsii*	2	Algodones Dunes area	2005	Discountable because suitable sand dune habitat is not present.
Slender woolly-heads *Nemacaulis denudata var. gracilis*	2	Algodones Dunes area	--	Discountable because suitable sand dune habitat is not present.
Algodones Dunes sunflower *Helianthus niveus ssp. tephrodes*	SE/1B	Algodones Dunes area	2005	Discountable because suitable sand dune habitat is not present.
Crown-of-thorns *Koeberlinia spinosa* ssp. *tenuispina*	2	Washes in canyons within the Chocolate Mountains Gunnery Range	1980	Discountable because suitable desert wash habitat is not present.
Coves's cassia *Senna covesii*	2	Washes in canyons within the Chocolate Mountains Gunnery Range	1925	Discountable because suitable desert wash habitat is not present.
Chaparral sand-verbena *Abronia villosa* var. *aurita*	1B	Calexico vicinity	Late 1800s	Discountable because suitable sand dune and sand field habitat are not present.

[1] California Natural Diversity Database Records Search for USGS Niland, Wister, Iris Wash, and Iris 7.5-minute Series Quadrangles
[2] Status:
FT = Federal threatened
SE = State endangered
CNPS (California Native Plant Society) Lists:
1B – Plants rare, threatened or endangered in California or elsewhere
2 – Plants rare, threatened or endangered in California but more common elsewhere

TABLE 6.3-2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES IN THE SITE VICINITY[1]

Species	Status[2]	Closest Documented Locations of Occurrence	Year of Documented Occurrence	Potential for Occurrence On Site
Colorado River toad *Bufo alvarius*	CSSC	Niland and Wister vicinities	1916	Discountable. No temporary pools or irrigation ditches present on site.
Desert tortoise *Gopherus agassizii*	FT/ST	Chocolate Mountains Aerial Gunnery Range and vicinity	1987	Unlikely to occur in the Imperial Valley area to the west of the East Highline Canal which includes the site.
Flat-tailed horned lizard *Phrynosoma mcalli*	CSSC	Durmid and Frink vicinities	1995 and 1966	Unlikely to occur. Preferred suitable habitat including fine sandy washes and flats is absent on site and the site is likely not within the current species range distribution regarded as eastward of the East Highline Canal.
Mountain plover *Charadrius montanus*	CSSC	Salton Sea National Wildlife Refuge and adjacent fields	1974	Unlikely. Preferred grassland, plowed field, grain field, and sod farm habitats not present on site.
Yellow warbler *Dendroica petechia brewsteri*	CSSC	Niland and Wister vicinities	1952	Low as a transient during migration. Discountable as a resident breeding bird on site.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE	Niland and Wister vicinities	1952	Low as a transient during migration. Discountable as a resident breeding bird on site.
Yellow- breasted chat *Icteria virens*	CSSC	Wister Unit Wildlife Refuge	1961	Low as a transient during migration. Discountable as a resident breeding bird on site.
Black-tailed gnatcatcher *Polioptila melanura*	none	West Pond, Imperial Waterfowl Management Area	1968	Moderate foraging potential in desert scrub habitat on site. Low breeding potential because preferred mesquite-palo verde-ironwood woodland habitat not present on site.
Crissal thrasher *Toxostoma crissale (=dorsal)*	CSSC	West Pond, Imperial Waterfowl Management Area	1969	Low as a transient during regional movement. Discountable as a breeding bird because preferred dense mesquite-ironwood-arrowweed-desert willow wash vegetation not present on site.
Burrowing owl *Athene cunicularia hypugea (=Athene cunicularia)*	CSSC	Observed on site and known to be common in the Imperial Valley region	2005	A single burrow was located during the field survey. Later confirmation by Kevan Hutchinson, IID, of a breeding pair with one egg. Otherwise, carrying capacity of the site is regarded as low relative to the agricultural areas located in the Imperial Valley.

TABLE 6.3-2
POTENTIALLY OCCURRING SPECIAL-STATUS WILDLIFE SPECIES IN THE SITE VICINITY[1]

Species	Status[2]	Closest Documented Locations of Occurrence	Year of Documented Occurrence	Potential for Occurrence On Site
Ferruginous hawk *Buteo regalis*	CSSC	Wide ranging during winter in the Imperial Valley, such as the Holtville area	2003	Low. Marginal onsite habitat not likely to support adequate small mammal prey base.
Colorado Valley woodrat *Neotoma albigula venusta*	none	General historic occurrences within lower Imperial Valley, such as vicinity of Seeley	1909	Discountable. Cactus and mesquite habitats are not present on site.
American badger *Taxidea taxus berlandieri*	CSSC	Imperial Waterfowl Management Area	1937	Low, but not discountable. Sufficient prey base (burrowing rodents) considered not likely present on site.
Nelson's bighorn sheep *Ovis canadensis nelsoni*	none	Chocolate Mountains Aerial Gunnery Range and vicinity	1986	Discountable. Unlikely to occur in the Imperial Valley area to the west of the Coachella Canal which includes the site.

[1] California Natural Diversity Database Records Search for USGS Niland, Wister, Iris Wash, and Iris 7.5-minute Series Quadrangles
[2] Status:
FE = Federal endangered
FT = Federal threatened
ST = State threatened
CSSC = California Species of Special Concern

The following section also describes the sensitive and common plant communities of the Project region to provide an ecological setting baseline for comparison with the Project Site vegetation and habitat. Throughout this section, those species that are referred to as having a discountable potential for occurrence are considered to have such a low potential for occurrence on site that they are highly unlikely to occur. Therefore, mitigation for these species is deemed unnecessary for the Project.

Vegetation/Habitat Types of the Project Region

The discussion of natural plant communities, below, is based on the vegetation communities classification described in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995) and/or in *Preliminary Description of the Terrestrial Natural Communities of California* (Holland 1986), as modified to accommodate specific regional considerations. In addition, agricultural lands and irrigation water delivery systems are briefly described as a vegetation/habitat type for the purpose of providing an ecological framework regarding potential translocational opportunities of some wildlife species such as Colorado River toad, western snowy plover, and burrowing owl as presented below.

Agricultural Land Type

About half of the land area surface in the Project region (basically, the area southwest of the East Highline Canal) is this type. The Project Site itself does not appear to have ever been put into agricultural production because indicators of land tillage are not present and inspection of aerial photography indicates that the site drainage patterns are relicts of the contiguous hydrogeological condition trending northeastward that predates the construction of the East Highline Canal and the Coachella Canal (TerraServer 2006). Currently in-production agricultural lands are not contiguous with the Project Site boundaries except, possibly, the southeastern corner across Beal Road (see Figure 6.3-2, Vegetation Map). The closest recently in-production agricultural lands occur about 0.25 mile to the north, and 0.5 mile to the south (TerraServer 2006). The predominant vegetation assemblage in the valley is planted cultivars for row crop, and hay production. The combination of high agricultural productivity, abundant irrigation water, and a long seasonal temperate climate supports a high bioproductivity of insect biomass. As such, this provides a relatively high carrying capacity for insectivorous birds and bats. In comparison, the Project Site does not provide these same types and qualities of habitat attributes and the site would not be expected to attract wildlife species that have demonstrated preferences for the ecological resources provided by agricultural lands. In summary, the ecological influence of the agricultural lands within the greater regional setting of the Project Site is considered to be of minor importance to the ecological resources of the Project Site.

Irrigation Water Delivery and Drainage System Type

This type occurs in association with the agricultural land type in the Project region and the greater regional setting of the Project Site, as the hundreds of linear miles of canals, laterals, and drains that IID has constructed and maintained for several decades. However, this type does not occur on the Project Site because the site was, apparently, never converted to agricultural development and, therefore, no irrigation supply was ever developed. The East Highline Canal occurs about 0.7 mile to the northeast of the site, so its ecological influence is regarded as minor. Several categories of water impoundments also occur in the region such as reservoirs,

impoundments within washes, sumps, farm ponds, fish production ponds, sewage treatment ponds, spreading basins, and the wildlife habitat ponds at the Wister Unit. However, since the site does not have such features, the ecological influence of these regional water bodies is considered to be of minor importance to the ecological resources of the Project Site. As such, the Project Site would not be expected to attract wildlife species that associate with water resources in a desert environmental setting; conversely, these offsite areas would be expected to be more attractive to such species.

Sonoran (=Coloradan) Desert Scrub Type

The most representative and best developed example of this type occurs mostly in the East Mesa and the Chocolate Mountains alluvial fan portion of the Project region. The vegetation intergrades variously throughout with saltbush scrub, desert wash scrub and woodland, and the canal seepage-induced phreatophytic scrub, woodlands, and wetlands associated with some reaches of the Coachella Canal (described below). The vegetation composition constitutes a series that is dominated in a mosaic-like pattern in various portions of the Project region by creosote bush (*Larrea tridentata*), burrow-bush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and sandpaper plant (*Petalonyx thurberi*). Where the mosaic demonstrates more influence by various saltbush species (see below) it would be more appropriate to regard it as saltbush scrub. The character of the substrates changes proceeding elevationally toward the bajadas and canyons of the Chocolate Mountains, becoming less sandy and gravelly and becoming more coarse stone and rubble. This also accounts for changes in several vegetation elements that are more adapted to these types of substrates with, for example, cactus species becoming more prevalent.

The majority of the Project Site is in a relatively natural condition and can be classified as a mixed Sonoran creosote bush scrub and desert saltbush scrub vegetation type. The dominant shrub species are generally widely spaced and include creosote bush, shadscale (*Atriplex confertifolia*), allscale (*A. polycarpa*), desert thorn (*Lycium* sp.), and burro-weed. The site is not regarded as a high quality example of these vegetation types and the habitat quality is regarded as moderate to poor due to the general low percent areal cover of the shrub and herbaceous plants.

Desert Wash Scrub and Woodland Type

The best examples of this type in the Project region occur in the larger washes (such as Iris Wash) within the Chocolate Mountains Gunnery Range, eastward of the Coachella Canal. As described previously, many of these washes have been directed to channels that cross the canal at siphons through the construction of levees within the range. In other cases, the washes are truncated by the canal on the range side, and conveyed floodwaters pond on the upslope side of the canal levee. In both cases, these hydrological alterations have often promoted the establishment and persistence of desert wash scrub and woodland due to the additional water supplies during storm events. The scrub versus woodland structural characteristics of the vegetation varies throughout, dependent upon several factors including substrate types, successional stages, climatological conditions, flooding, fires, and human activities. Characteristic species of this type include catclaw (*Acacia gregii*), desert ironwood, desert willow (*Chilopsis linearis*), palo verde (*Cercidium floridum*), cheesebush (*Hymenoclea salsola*), Indigo bush (*Psorothamnus fremontii*), desert thorn, saltbushes (*Atriplex* spp.), mesquite, and salt cedar.

Desert Saltbush Scrub Type

This type also varies in composition and shrub density throughout the Project region, with some areas (such as the site) supporting a low cover of smaller shrubs, whereas other areas such as approaching the Wister Unit, and along the East Highline Canal, supporting dense cover of larger shrubs. Saltbush scrub stands generally occur to the west of the East Mesa. This type is generally indicative of areas with fine-textured, poorly drained soils with high alkalinity and/or salinity. This correlates with the geologic history of the area, as discussed previously. Typical species include quail bush (*Atriplex lentiformis*), shadscale, allscale, desert thorn, and cheese bush. The Project Site is not regarded as a high quality example of this vegetation type and the habitat quality is regarded as moderate to poor due to the general low percent areal cover of the shrub and herbaceous plants.

Alkali Sink Scrub Type

This type occurs mostly approaching the Salton Sea such as in the vicinity of the Wister Unit. The vegetation is adapted to growth in poorly drained soils with extremely high alkalinity and/or salt content. Again, the occurrence of this type is correlated with the geologic history of the area, including the rising and falling of sea and lake levels over geologic time and the corresponding effect this has had on the condition of the soil. Typical plants include iodine bush (*Allenrolfea occidentalis*), alkali-weed (*Cressa truxillensis*), rusty molly (*Kochia californica*), greasewood (*Sarcobatus vermiculatus*), and seep-weed (*Sueda torreyana*).

Canal Seepage-Induced Phreatophytic Scrub, Woodlands, and Wetlands Type

Unlined reaches of the Coachella Canal are subject to water loss through the embankments and levees as seepage. This seepage percolates into the substrate and, depending on the substrate and substratum compositions along various reaches (i.e., sand, alluvium, bedrock), it may create conditions of locally high water tables and/or may daylight as saturated and inundated soils areas or as flowing rivulets. Under such hydrologic conditions, phreatophytic and/or wetland plant species can opportunistically establish and persist in what was, otherwise, a dry substrate desert environment. Phreatophytes are plants that are adapted to relatively high groundwater tables, although they typically do not persist in inundated and saturated surface soil conditions. Typical phreatophytes include mesquite species, and the invasive non-native salt cedar. These species have adaptations that allow roots to follow retreating water tables to great depths and/or to great lateral distances to distal water sources, in some cases. Existing desert wash scrub and woodlands (see previous discussion) also benefit in proximity to canals by extending roots into the seepage zone. Typical wetland conditions occur where seepage creates saturated and inundated soils, and/or flowing and ponding water areas which support hydrophytic herbaceous herb, shrub, and tree species such as rushes (*Juncus* spp.), sedges *(Carex* spp.), cat-tails (*Typha* spp.), and willows (*Salix* spp.). This type does not occur on the Project Site nor does the site provide those described or equivalent habitat attributes, and as such, the site would not be expected to attract wildlife species that have demonstrated preferences for this type of ecological resource in the Project region. In summary, the ecological influence of this type within the greater regional setting of the Project Site is considered to be of minor importance to the ecological resources of the Project Site.

Pond Freshwater Marsh (Wister Unit)

The Imperial Wildlife Area is operated and managed by the State Department of Fish and Game. The area comprises two units: the Wister Unit (located within the Project region, as depicted in Figure 6.3-1, California Natural Diversity Database), and the Finney-Ramer Unit located about 12 miles southwest of the Project Site on the Alamo River. The Wister Unit has a total water surface area of about 5,500 acres and total annual water use of almost 21,000 acre-feet with demands forecasted to remain level through 2020. The ponds are managed to provide aquatic and freshwater marsh habitats that are valuable for migratory and over-wintering waterfowl and wading birds. The marsh habitat which mostly occurs as fringe vegetation around the ponds is valuable habitat for species such as Yuma clapper rail (*Rallus longirostris yumanensis*) and California black rail (*Laterallus jamaicensis*). This type does not occur on the Project Site nor does the site provide those described or equivalent habitat attributes, and as such, the site would not be expected to attract wildlife species that have demonstrated preferences for this type of ecological resource in the Project region. In summary, the ecological influence of this type within the greater regional setting of the Project Site is considered to be of minor importance to the ecological resources of the Project Site.

Wildlife of the Project Region

The wildlife species assemblages can be basically partitioned into two groups within the Project region: (1) one group that occurs within the agricultural and Salton Sea portion based on preferences for irrigated farmlands and the associated marsh and aquatic habitats in the canals, drains, the Alamo River, and the margins of the Salton Sea; and (2) species that are adapted to natural desert environments such as occur in the East Mesa and Chocolate Mountains Gunnery Range portion. These wildlife species assemblages are discussed below.

Agricultural Areas

Within the agricultural production portion of the Project region, the wildlife species assemblage largely reflects the ecological adaptabilities of species that can utilize expansive tracts of mixed production agricultural lands and extensive irrigation system waterworks. In a holistic sense, these types of human-created, non-natural, habitats can provide high levels of biological productivity and resources availability that may functionally substitute for native habitats such as some types of rangelands and wetlands. In addition, many of the Pacific Flyway's waterfowl, wading birds, and shorebirds, such as sandpipers, stilts, avocets, herons, and egrets pass through or winter in the vicinity of the Salton Sea and the irrigated agricultural lands of the Imperial Valley.

Bird species include piscivorous (i.e., "fish eating") birds, wading birds, marshland birds, shorebirds, gulls and terns (Family Laridae), swallows (Family Hirundinidae), blackbirds (Family Icteridae), great-tailed grackle (*Quiscalus mexicanus*), and starling (*Sturnus vulgaris*); bird species typically associated with riparian woodlands and scrub (i.e., riparian birds); and bird species typically associated with grassland and agricultural habitats such as plovers (Family Charadriidae), raptors (hawks, falcons, eagles, etc.), and owls. Common piscivorous birds at the Salton Sea include pelicans (Family Pelecanidae), cormorants (Family Phalacrocoracidae), and the black skimmer (*Rhynchops niger*). Common wading birds in the agricultural field and drains include herons, egrets, and bitterns (Family Ardeidae). Marshland species include rails such as

California black rail, Yuma clapper rail, the red-winged blackbird (*Agelaius phoeniceus*), and the common yellowthroat (*Geothlypis trichas*). Migrant riparian birds that are incidentally reported in salt cedar scrub and mesquite scrub habitats in the greater regional setting of the Project include the yellow-throated warbler (*Dendroica petechia brewsteri*), southwestern willow-flycatcher (*Empidonax traillii extimus*), and the yellow-breasted chat (*Icteria virens*). Common raptor species include northern harrier (*Circus cyaneus*), red tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Two owls common to the Imperial Valley are the burrowing owl (*Athene cunicularia hypugea [=Athene cunicularia]*) and the barn owl (*Tyto alba*). Terrestrial wildlife species include small mammals such as hares, rabbits, pocket gopher (*Thomomys bottae*), field mice (*Peromyscus* spp.), and reptiles including side-blotched lizard (*Uta stansburiana*), and gopher snake (*Pituophis melanoleucus*).

Desert Areas of East Mesa and Chocolate Mountains Gunnery Range

Wildlife that use this area include the assemblage of reptile, bird and mammal species that are common and characteristic of the Sonoran Desert Biome, Colorado Desert subdivision, which in California, includes the geographic area south and west of the Little San Bernardino and Chocolate mountain ranges to the east and the coastal Peninsular Range to the west. The Sonoran Desert (also known as Coloradan) is often referred to as the so-called "low desert" in contrast with the Mojave Desert which occurs to the east and north of the Little San Bernardino and Chocolate mountain ranges which is often called the "high desert." Many species are common to both deserts such as the desert tortoise, side-blotched lizard (*Uta stansburiana*), desert iguana (*Dipsosaurus dorsalis*), western whiptail (*Cnemidophorus tigris*), desert horned lizard (*Phrynosoma platyrhinos*), long-nosed leopard lizard (*Gambelia wislizenii*), zebra-tailed lizard (*Callisaurus draconoides*), western diamondback rattlesnake (*Crotalus atrox*), western patch-nosed snake (*Salvadora hexalepis*), long-nosed snake (*Rhinocheilus lecontei*), gopher snake (*Pituophis melanoleucus*), night snake (*Hypsiglena torquata*), coachwhip (*Masticophis flagellum*), Say's phoebe (*Sayornis saya*), western meadowlark (*Sturnella neglecta*), white-crowned sparrow (*Zonotrichia leucophrys*), black-throated sparrow (*Amphispiza bilineata*), sage sparrow (*Amphispiza belli*), black-tailed gnatcatcher (*Polioptila melanura*), rock wren (*Salpinctes obsoletus*), common raven (*Corvus corax*), lesser nighthawk (*Chordeiles acutipennis*), burrowing owl (*Athene cunicularia*), greater roadrunner (*Geococcyx californianus*), common ground-dove (*Columbina passerine*), mourning dove (*Zenaida macroura*), Gambel's quail (*Callipepla gambelii*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), Audubon's cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), cactus mouse (*Peromyscus eremicus*), desert pocket mouse (*Perognathus penicillatus*), Merriam's kangaroo rat (*Dipodomys merriami*), Botta's pocket gopher (*Thomomys bottae*), round-tailed ground squirrel (*Spermophilus tereticaudus*), desert kit fox (*Vulpes macrotis*), and coyote (*Canis latrans*). Most of these species are more likely to occur on lands to the east and north of the Project Site because of two basic factors: (1) the relatively low onsite habitat quality relative to these other areas; and (2) the barriers to wide ranging translocational movements of terrestrial species due to the presence of the Coachella Canal and East Highline Canal. Wildlife species that were observed on site are provided in Table 6.3-3, Wildlife Species Observed on the Project Site, March 31, 2005.

TABLE 6.3-3
WILDLIFE SPECIES OBSERVED ON THE PROJECT SITE, MARCH 31, 2005

Common Name	Scientific Name	Notation
Side-blotched lizard	*Uta stansburiana*	-
Burrowing owl	*Athene cunicularia*	Burrow and pellets observed
House finch	*Carpodacus mexicanus*	-
Common ground-dove	*Columbina passerine*	-
Mourning dove	*Zenaida macroura*	-
Common raven	*Corvus corax*	-
American crow	*Corvus brachyrhynchos*	-
American kestrel	*Falco sparverius*	Flying southward over Beal Road
Northern mockingbird	*Mimus polyglottos*	-
House sparrow	*Passer domesticus*	-
Say's phoebe	*Sayornis saya*	-
European starling	*Sturnus vulgaris*	-
Black-tailed jackrabbit	*Lepus californicus*	-
Coyote	*Canis latrans*	Possible scat (maybe dog)

6.3.1.2 Areas of Biological Sensitivity Within the Greater Regional Setting of the Project Site

The greater regional setting of the Project Site was outlined above. The biologically sensitive and ecologically important aspects of these geographical areas are highlighted below. The discussions are introduced generally in the order of proceeding distally from the site.

Immediate Vicinity of the Project Site

Areas in the immediate vicinity (about 1.0 mile) of the Project Site that are known to support sensitive biological resources include agricultural lands, canals (e.g., East Highline Canal), laterals, and drains that are part of the agricultural waterworks system, and water impoundments. These areas constitute habitats of varying extents and qualities for several common and sensitive wildlife species. However, there is no portion of this area that qualifies as an area of great biological sensitivity within the greater regional setting of the Project Site. It is noted that none of these types of features occur on the Project Site.

Project Region

Significant habitat areas that occur on the valley floor in the Project region (within 5 miles) include the drainage systems (e.g., drains, washes, sloughs, lakes, and other impoundments, etc.) that constitute a portion of the Salton Sea and the Alamo River watershed. The primary source waters for these watercourse systems include agricultural water surface runoff and percolation

water discharges, and stormwater discharges. The year-round availability of water and the long growing season of the Imperial Valley has promoted and sustained aquatic, marsh, and riparian habitat types to various extents throughout these watercourse systems. The accumulation of silt is so great, in fact, that it is a constant challenge for IID Water Division to maintain the functioning of the drainage system by mechanical removal of silt in the irrigation runoff collection system of drains. To the northwest of the Project Site occur constructed waterfowl ponds and planted forage fields for use as migratory and over-wintering waterfowl and water bird habitats on the Imperial State Wildlife Area – Wister Unit, an area of significant biological sensitivity. It is noted that none of the types of features discussed above occur on the Project Site.

The eastern half of the Project region contains natural desert habitats within the East Mesa and Chocolate Mountains Gunnery Range. The sensitive species assemblages and habitats within this area were discussed previously. The area of the range east of the Coachella Canal approaching the bajadas and canyons of the Chocolate Mountains can be regarded as an area of biological sensitivity because of the occurrences of rare plants such as Munz's cholla (*Opuntia munzii*), the desert tortoise, and Nelson's bighorn sheep. Seepage areas along the Coachella Canal can be regarded as biologically sensitive areas due to their unique character of providing relatively substantial tracts and pockets of desert wash scrub and woodland, phreatophytic scrub, and wetland habitats within an, otherwise, xeric Sonoran desert scrub ecological setting. It is noted that this existing condition will change substantially when the middle reach of the Coachella Canal (about Siphon 7 to Siphon 11 within the Project region) is modified to prevent seepage loss and many areas of these habitat types desiccate. It is noted that none of the types of features discussed above occur on the Project Site.

Southeastern Portion of the Salton Sea

Occurring at the western edge of the Project region, the most valuable area of biological sensitivity within the greater regional setting would be the shoreline, nearshore waters, marsh, drain, and river mouth habitats complex of the southeastern portion of the Salton Sea. This ecological complex of various saltwater and freshwater aquatic, associated wetlands, riparian, phreatophyte scrub, and alkali sink scrub habitats has high biological productivity and supports a diverse and abundant assemblage of wildlife species, largely, waterfowl, wading bird, and shorebirds. The aquatic components of this complex are habitat for the special status desert pupfish (*Cyprinodon macularius macularius*) and constitute important spawning habitat for fish species such as tilapia (Cichlid Family) which provide the abundant food resource for piscivorous (i.e., "fish eating") birds such as cormorant, pelicans, and black skimmer. It is noted that none of these types of features occur on the Project Site.

Irrigated Agricultural Lands and Wetland Areas Southward to the Sea of Cortez

The irrigated agricultural lands and the several categories of wetland types that occur from the Salton Sea to the Sea of Cortez provide an avenue of ecological continuity for many species of birds that are dependent upon aquatic habitats. In simplistic terms, a mallard has abundant opportunities to set down in-between flights at numerous water features located throughout this area. Similarly, species such as Yuma clapper rail and California black rail have potential for translocational movement over time and over generations throughout this ecological continuum

and thereby demonstrate dispersion, occupancy of suitable habitats, and range expansion. It is noted that the purpose of this section is not to attempt to quantify or qualify this phenomenon since that would be outside the scope of this AFC; however, it is described for the purpose of describing the greater regional setting of the Project Site. It is noted that none of these types of features occur on the Project Site.

Natural Desert Areas of the Algodones Dunes

At the eastern edge of the East Mesa, beginning about 12 miles southeast of the Project Site, occurs an extensive area of sand dunes and hills named the Algodones Dunes. This area is geologically and ecologically significant and supports several rare and endemic species of plants and wildlife that have adapted over geologic time to the prevailing environmental factors and habitat attributes of the dunes. The dunes are geological relicts of the ancient Gulf and Lake Cahuilla when the various stages of these waterbodies occupied the Salton Trough. The parent materials for these sands were the sediments deposited by the Colorado River that were sorted by wave and wind action and became aeolian deposits along the ancient shorelines. It is noted that none of these types of features occur on the Project Site.

Colorado River

The historic creation and the perpetuation of the aquatic, wetland, riparian, and phreatophytic habitat types associated with the water delivery and drainage systems within the Imperial Valley and at the Salton Sea are due to the importation of irrigation water from the Colorado River. The sea in recent years has approximated a net zero water input/output balance, where water evaporation from the sea's surface area basically equals the volume of water delivered to the sea from irrigation wastewater and effluent discharge sources. Similarly, the net surface area of aquatic, marsh, riparian, and phreatophyte habitats associated with drainage systems and lands with perched water tables has remained relatively unchanged in preceding decades due to the influence of the large volume of imported Colorado River water and the ongoing irrigation practice of furrow-flood irrigation. With the current trend in the Imperial Valley toward water conservation through land fallowing and using more efficient irrigation practices (e.g., drip and sprinkler), which thereby reduces the need to import river water, the extents and qualities of the various habitats can be expected to change in the coming decades.

Another important aspect of the continuity between the Colorado River and the irrigated landscape of the Imperial Valley, is the potential that was created and, in some cases still persists, for the translocational dispersion of aquatic, wetland, and riparian species that are associated historically with the Colorado River. Examples of wildlife species that fall into this category include: (1) the rail species described above that occupy freshwater marsh areas in drains; (2) fish like the razorback sucker that has become entrained in the system of canals, laterals, and terminal reservoirs; and (3) the Colorado River toad which is documented in CNDDB records to have historically occurred in the irrigation supply and drainage system. It is noted that the purpose of this section is not to attempt to quantify or qualify this phenomenon since that would be outside the scope of this AFC; however, it is described for the purpose of describing the greater regional setting of the Project Site. It is noted that none of these types of features occur on the Project Site.

Special Status Species Potentially Occurring in the Project Region

This section summarizes the special status species that were identified. These species include those that are reported to have historically occurred and those that are considered to have the potential to occur in the Project region. Special status species include all species that are listed under the federal and California Endangered Species Acts, species proposed for those listings, USFWS Species of Concern, California Species of Special Concern, California Fully Protected Species under the Fish and Game Code, and plant species listed by the California Native Plant Society (CNPS).

Special status species were identified from lists provided by the USFWS, the CDFG's CNDDB, and the CNPS electronic inventory (CNPS 2006) (Appendix E,USFWS Letter and CNDDB). The potential for each species to occur in the Project region is evaluated based on existing information and a habitat reconnaissance. Where special status species are considered to have potential to occur on the Project Site, these are notated as such in the discussions below and in Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, and Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, for plants and wildlife, respectively. Only those species that may be impacted by construction and operation and maintenance of the Project are evaluated for potential impacts in Section 6.3.3, Cumulative and Residual Impacts.

Special status species occurrences within the Project region that are reported from the Niland, Wister, Iris Wash, and Iris topographic quadrangles using the CNDDB "Rarefind" application, were identified and reviewed for their potential relevancy for occurrence at the Project Site. The CNDDB geographical information system (GIS) data were also evaluated to identify the proximity of the known occurrences to the Project Site. The CNDDB reported locations are included in Figure 6.3-1, California Natural Diversity Database. Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, and Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, list the special status species known to occur or potentially occur within the Project region, and the habitat types that could support these species at least seasonally. The tables include species listed as threatened or endangered that have special requirements under the federal and California Endangered Species Acts and other non-listed special status species that could become listed in the future.

Special Status Plant Species Descriptions

As noted in Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, the only special status plant species assessed to have any potential to occur on the Project Site is the Abrams's spurge (*Chamaesyce abramsiana*). The habitat, specifically the edaphic and microhabitat attributes of the site, are not regarded as suitable for supporting and sustaining the other plants included in Table 6.3-1 that are reported from the greater regional setting of the Project Site. Therefore, the entries in the table are provided for AFC data adequacy purposes to evaluate the potential for occurrences following from the species list review of the CNDDB, USFWS, CNPS, and other sources. Sites of CNDDB occurrences in the general area of the Project Site are depicted in Figure 6.3-1, California Natural Diversity Database. Descriptions of these special status plants species are provided below.

- **Abrams's spurge** (*Chamaesyce abramsiana*). *Chamaesyce abramsiana* is a dicot in the family Euphorbiaceae. It is an annual herb that is native to California and is also found

outside of California. The documented distributional range in southern California is mainly the Imperial Valley. It occurs in areas of sandy flats within desert scrub and creosote bush scrub plant communities within an elevational range between 0 and 656 feet. It is included by the CNPS on List 2 (plants rare, threatened, or endangered in California; common elsewhere). From Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, the potential for occurrence on the Project Site is regarded as very low largely because preferred habitat including suitable sandy areas in desert scrub habitat, is not present on site.

- **Sand food** (*Pholisma sonorae*). *Pholisma sonorae* is a dicot in the family Lennoaceae. It is a perennial herb that is native to California and is also found outside of California in Arizona, Baja California, and Sonora, Mexico. The documented distributional range in southern California is mainly the desert sand fields and dunes of eastern Imperial County below 1,000 feet in desert scrub and creosote bush scrub habitats. It is a root parasite of a few woody perennials such as *Tiquilia plicata* and *Ambrosia dumosa* that inhabit the sand field and dunes and once was an important food item of the Native Americans. It is included by the CNPS on List 1B. From Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, the potential for occurrence on the Project Site is discountable largely because suitable sandy habitat is absent.
- **Munz's cholla** (*Opuntia munzii*). This cactus species a dicot in the family Cactaceae, is a shrub (stem succulent) that is native to California and is endemic (limited) to California alone with occurrences limited to Imperial and Riverside counties. It is included on the CNPS List 1B which indicates that it is considered rare, threatened, or endangered in California and elsewhere. It is currently known from fewer than ten occurrences in the Chocolate Mountains Gunnery Range. Some occurrences are threatened by military activities. The cactus is of hybrid origin, but is stabilized and only reproduces vegetatively. Like other species of cactus, it can be uprooted and dispersed when carried by stormflows. Due to the known occurrences that are distal from the Project Site, and since there is a low potential for introduction of vegetative parts from the Chocolate Mountains Gunnery Range onto the Project Site due to interruption of drainages by the Coachella Canal and East Highline Canal, the potential for onsite occurrence is discountable.
- **Peirson's milk-vetch** (*Astragalus magdalenae* var. *peirsonii*). This perennial herb is a dicot in the family Fabaceae that is native to California and Arizona, and to Baja California. It is included by the CNPS on List 1B (rare, threatened, or endangered in California and elsewhere). It is listed by the state of California as endangered and by the federal government as threatened. Habitat is sand dunes in creosote bush scrub. This species' potential for occurrence on site is discountable because suitable sand dune habitat is not present.
- **Giant Spanish-needle** (*Palafoxia arida* var. *gigantea*). This annual or becoming perennial and woody at the base is a dicot in the family Asteraceae. It is native to California and to Arizona. It is included by the CNPS on List 1B (rare, threatened, or endangered in California and elsewhere). Habitat is sand dunes in creosote bush scrub. This species' potential for occurrence on site is discountable because suitable sand dune habitat is not present.
- **Wiggin's croton** (*Croton wigginsii*). This shrub is a dicot in the family Euphorbiaceae that is native to California and to Arizona, to Baja California, and to Sonora, Mexico. It is

included by the CNPS on List 2 (rare, threatened, or endangered in California; common elsewhere). It is listed by the state of California as rare. Habitat includes sand dunes in creosote bush scrub. This species' potential for occurrence on site is discountable because suitable sand dune habitat is not present.

- **Slender woolly-heads** (*Nemacaulis denudata* var. *gracilis*). This annual herb is a dicot in the family Polygonaceae. It is native to California and to Arizona, to Baja California, and to Sonora, Mexico. It is included by the CNPS on List 2 (rare, threatened, or endangered in California; common elsewhere). Habitat includes sand dunes in creosote bush scrub. This species' potential for occurrence on site is discountable because suitable sand dune habitat is not present.
- **Algodones Dunes sunflower** (*Helianthus niveus* ssp. *tephrodes*). *Helianthus niveus* ssp. *tephrodes*, a dicot in the family Asteraceae, is a perennial herb that is native to California and to Arizona, to Sonora, Mexico. It is included by the CNPS on List 1B (rare, threatened, or endangered in California and elsewhere). It is listed by the state of California as endangered. It occurs in sand dunes habitat with creosote bush vegetation. This species' potential for occurrence on site is discountable because suitable sand dune habitat is not present.
- **Crown-of-thorns** (*Koeberlinia spinosa* ssp. *tenuispina*). This shrub is a dicot in the family Koeberliniaceae that is native to California and is also found outside of California, but is confined to western North America. It is included by the CNPS on List 2 (rare, threatened, or endangered in California; common elsewhere). Habitat is desert washes in creosote bush scrub and it is reported on the Chocolate Mountains Gunnery Range. This species' potential for occurrence on site is discountable because suitable desert wash habitat is not present.
- **Coves's cassia** (*Senna covesii*). This perennial herb is a dicot in the family Fabaceae that is native to California and Arizona, and to Baja California. It is included by the CNPS on List 2 (rare, threatened, or endangered in California; common elsewhere). It is reported as of occasional occurrence in dry washes below 2,000 feet in creosote bush scrub and is known to occur within the Chocolate Mountains Gunnery Range. This species' potential for occurrence on site is discountable because suitable desert wash habitat is not present.
- **Chaparral sand-verbena** (*Abronia villosa* var. *aurita*). *Abronia villosa* var. *aurita* is a dicot in the family Nyctaginaceae. It is an annual herb that is native to California and is endemic (limited) to California alone. The documented distributional range in southern California is from the head of the Coachella Valley to Imperial County and through interior Riverside, Orange and San Diego counties. It occurs in sandy places in desert scrub, coastal sage scrub, and chaparral plant communities within an elevational range from below 5,249 feet. It is included by the California Native Plant Society on List 1B (plants rare, threatened, or endangered in California and elsewhere). From Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, the potential for occurrence on the Project Site is discountable largely because preferred habitat including open sandy places in desert scrub, coastal sage scrub, and creosote bush scrub, is not present on site.

Special Status Wildlife Species Descriptions

The special status wildlife species presented below and in Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, were assessed for their potential to occur on

the Project Site. The assessments were based on: (1) similarities in habitat attributes on site to those in adjacent areas that may serve as attracting factors for sensitive wildlife species; (2) assessment of habitat quality on site to sustain these species; and (3) the proximity of the site to reported occurrences and utilized habitats in the adjacent areas that may provide translocational opportunities. With respect to (1) and (2), the following species that are reported from the greater regional setting of the Project Site are not considered to have potential to occur on site because suitable aquatic habitat (i.e., Salton Sea, marsh, irrigation drain and canal, and/or pond) is not present, and there are no other sustaining habitat attributes; as such, these species are not considered further in this section:

- Razorback sucker (*Xyrauchen texanus*)
- Desert pupfish (*Cyprinodon macularius macularius*)
- Yuma clapper rail (*Rallus longirostris yumanensis*)
- California black rail (*Laterallus jamaicensis*)
- White-faced ibis (*Plegadis chihi*),
- Black skimmer (*Rhynchops niger*)
- California brown pelican (*Pelecanus occidentalis*)
- Caspian tern (*Sterna caspia*)
- Gull-billed tern (*Sterna nilotica*)

Descriptions of the special status species considered in this section are provided below and were developed largely from the California Department of Fish and Game, Habitat Conservation Branch, California's Plant's and Animals Web site (CDFG 2006), and the National Wildlife Federation, eNature Web site (eNature 2006).

- **Colorado River toad** (*Bufo alvarius*).
  State Status: Species of Special Concern
  Federal Status: None

  This species is a large (110 to 187 millimeters [mm]) olive-brown to black toad with distinctive, large, oval to sausage-shaped glands located on some of the upper surfaces of all limbs. One to four white warts (tubercles) occur just behind the angle of the mouth. The iris is dark brown or black with a few guanophores. The known range of the Colorado River toad extends from southeastern California into lowland Arizona and extreme southwestern New Mexico in the United States and southward into the states of Sonora and northern Sinaloa, Mexico. In California, *B. alvarius* was historically present along the channel of the lower Colorado River and in the southern Imperial Valley. This toad ranges in elevation from near sea level to 1,615 meters (m). Colorado River toads generally appear just before summer showers and congregate and breed in temporary pools after the rains begin. Seven to eight thousand eggs are laid in long strings. Details of the larval period are lacking, but the interval is believed not to exceed 1 month, and tadpoles metamorphose at a very small size (<15 millimeters [mm]). Adults may be long-lived as individuals are known to have survived over 9 years in captivity. The available information regarding habitat requirements of *B. alvarius* are scant. Although temporary pools and irrigation ditches are the habitat in which Colorado River toads have been observed to breed, an understanding of the range of

conditions under which they may breed is not known. The currently understood status of this species is that no collections or observations of this species have been made during surveys by CDFG personnel in July 1955 or in April-May 1991. This species may have been extirpated over most of its range in California because of habitat destruction (due to changing farming practices) and the extensive use of pesticides after World War II. Although it has a relatively large range outside of California, *B. alvarius* is regarded as imperiled throughout much of its range.

From Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is regarded as discountable due to the highly extirpated status of this species in California and because suitable onsite foraging and breeding aquatic and wetland habitats are not present on site. The CNDDB report for this species occurrence in the Niland area dates from 1916 and it is currently considered extirpated.

- **Desert tortoise** (*Gopherus agassizii*)
  State Status: Threatened
  Federal Status: Threatened

  The desert tortoise is about 9 ¼ to 14 ½ inches (23.5 to 36.8 centimeters [cm]) long, terrestrial reptile, with domed shell and round, stumpy elephantine hind legs. The front limbs are flattened for digging and heavily scaled, and all the toes are webless. The carapace is oblong, with a brown horn, and with scute centers often yellowish. The bridge is well developed with a single auxiliary scute. The plastron is yellowish, with brown along scute margins. The adult throat scutes projects beyond the carapace. The head is proportionally small, rounded in front, and reddish-tan. The iris of the eyes is greenish-yellow. The front and hind feet are about equal in size. The plastron of the male is concave. The range of the desert tortoise is from southeastern California and southern Nevada southeast into Mexico. Habitat includes arid, sandy or gravelly areas with creosote, thorn scrub, Joshua tree and yucca, and cacti, and it also occurs in washes, canyon bottoms, and oases. Tortoises mate chiefly in spring and nests from May to July. During breeding females typically lay 2 to 3 clutches of 2 to 14 hard, chalky, elliptical or spherical eggs, in a funnel-shaped nest, 6 inches (15.2 cm) deep. Hatching occurs from mid-August to October. Maturity is reached in 15 to 20 years.

  Desert tortoises have suffered decline due to the degradation of habitat, predation of eggs and young, disease, and collection for the pet trade. Mining, agriculture, industrial and residential development, and the proliferation of off-road vehicles have contributed to the alteration of their desert habitat. Tortoise populations are slow to recover from population losses because the females do not breed until they are 15 to 20 years old. Then they may lay eggs only when feeding conditions are favorable. The young tortoises are so vulnerable to predators and other hazards that it is estimated that only 2 to 3 percent survive into adulthood. Desert tortoises feed on grasses in early morning and late afternoon. During the heat of the day they retreat to a shallow burrow dug in the base of an arroyo wall. They have been known to dig horizontal tunnels up to 30 feet (9.1 m) in length. In September they may congregate in a communal den to spend the winter, becoming active again in March. When two males meet, they bob their heads rapidly, rushing toward each other and striking their gular scutes together. One of the two may be overturned.

The range of the desert tortoises likely included the Project region prior to the agricultural development in the Imperial Valley and construction of canals from the early part of the 1900s that have resulted in habitat loss, degradation, and fragmentation. Since then, these features have likely promoted the extirpation of tortoises on lands to the west of the Coachella Canal. Similarly, military operations have likely restricted the occurrence potential for tortoise to the upper bajadas and canyons of the Chocolate Mountains on the range.

The Project Site does not represent good quality tortoise habitat due to the sparse ground cover, relatively non-friable soils required for burrowing, and the isolation of the site for several decades from the occupied areas on the Chocolate Mountains Gunnery Range. As such, from Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is discountable.

- **Flat-tailed horned lizard** (*Phrynosoma mcalli*)
  State Status: Species of Special Concern
  Federal Status: None (except BLM Sensitive and USFS Sensitive designations)

  Phrynosoma mcallii is a moderated-sized (50.0 to 82.0 millimeters [mm]), gray, tan, reddish-brown, or whitish horned lizard with a narrow middorsal stripe from the head to the base of the tail and a prominently dorsoventrally flattened tail. The two largest (occipital) head spines are very long (3 to 4 times longer than their basal width) and do not contact each other at the base. Three shorter, lateral (temporal) spines are present on each side of the head. The undersurfaces are white without any markings or spots whatsoever. The iris color has not been described. It occurs throughout most of the Colorado Desert, it extends from the north end of the Coachella Valley (Riverside County), California southward into northeastern Baja California, Mexico, and eastward through the southwestern tip of Arizona into Sonora, Mexico. Its known elevational range extends from 52 m below sea level at Frink, Imperial County, California to about 300 m on Superstition Mountain, Imperial County. In California, its range extends from central Riverside County southeast through most of Imperial County to the Mexican border. Flat-tailed horned lizards also enter extreme eastern San Diego County.

  P. mcallii survives in hot, dry environments with a sandy substrate. *P. mcallii* adults are obligate hibernators that over-winter at 2.5 to 20 cm of depth in loose sand. Adult flat-tailed horned lizards emerge from over-wintering sites from February through April in Imperial County; they emerge when substrate temperatures at a depth of 5 cm reach their voluntary minimum, which is relatively high (29.3º Celsius [C]). When sand surface temperatures reach or exceed 41ºC, they avoid overheating by submerging themselves into the cooler subsurface sand by wriggling violently. Longevity for the flat-tailed horned lizard is unknown. *P. mcallii* is a dietary specialist that consumes mostly ants and high lizard abundance has also been generally associated with high abundances of harvester ants (*Pogonomyrmex* spp.). Common predators of *P. mcallii* include sidewinders (*Crotalus cerastes*), round-tailed ground squirrels (*Spermophilus* spp.), loggerhead shrikes (*Lanius ludovicianus*), American kestrels, common ravens (*Corvus corax*), coyotes (*Canis latrans*), and desert kit foxes (*Vulpes macrotis*). *P. mcallii* typically escapes its predators by initially fleeing a short distance, invariably diving into the sand, and subsequently remaining immobile. Flat-tailed horned lizards are also killed by off-road vehicles and automobiles on paved roads.

P. mcallii is a specialized sand-dweller that has not been observed outside of areas with a shifting sand substrate, areas in which it is known to forage, and over-winter. It requires fine, wind-blown (aeolian) sand deposits and has been recorded in several vegetative associations where such a substrate is present, including those where creosote bush (*Larrea tridentate*), bur-sage (*Ambrosia dumosa*), and Indigo bush (*Psorothamnus emoryi*) are abundant. It seems to be more abundant in associations where plants large enough to form nuclei for sand accumulations are present, and a strong, positive correlation (r = 0.93) between the abundance of *P. mcallii* and the total density of perennial plants has been identified. The preference of flat-tailed horned lizard for bur-sage and Indigo bush is likely related to the fact that both species are low-growing, densely branched shrubs with multiple branching at the crown, a growth habit that permits it to accumulate more sand at the base than co-occurring single-stemmed species, and provide more shade than other co-occurring multi-stemmed species (e.g., creosote bush).

Stress elements include increased use and development of desert areas in Riverside and Imperial counties in the late 1960s and early 1970s. Analysis of present and projected land use in southeastern California showed that about 52 percent of the estimated geographic range of *P. mcallii* in California (about 7,000 km^2) was within areas subjected to one or more use-oriented activities (e.g., agriculture; sand and gravel quarries; off-road vehicle "parks"; approved oil, natural gas, and geothermal leases). The Bureau of Land Management regards *P. mcallii* as not endangered, but they noted that, “While *P. mcallii* still exists comfortably in parts of its geographic range, it is rapidly disappearing in others.” The current assessment by CDFG is that about 70 percent of the range of *P. mcallii* is impacted by one or more of these uses, and that flat-tailed horned lizards have been eliminated entirely from roughly 30 percent of this historic range. The south-central portion of Imperial County is regarded as no longer inhabited by *P. mcallii*

This species was not observed on site, and from Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is regarded as discountable due to no suitable habitat including fine sandy washes and flats being present on site or in the vicinity, and the site is likely not within current species range distribution.

- **Mountain plover** (*Charadrius montanus*)
  State Status: Species of Special Concern
  Federal Status: None (except USFWS Bird of Conservation Concern designation)

  This small 8 to 9½ inches long (20 to 24 cm) songbird is long-legged and sandy-brown in color. The breeding adult has a black forecrown, white forehead, and thin black eye line. In winter, for adults and young birds, the face is plain with a conspicuous dark eye. In all plumages, there is a whitish wing stripe, whitish wing linings, and a black band near the tail tip. Breeding habitat includes arid plains, short-grass prairies, and fields from Montana, Wyoming, Colorado, New Mexico, and the Texas panhandle east to Nebraska. It migrates from these areas to its wintering grounds from central California and southern Arizona southward into Mexico. Nesting birds produce, usually, three dark-olive eggs, heavily spotted with brown, in a shallow depression on the ground, sometimes lined with bits of cow dung, twigs, or grass. It feeds singly or in small flocks, mostly on insects. In winter, larger concentrations can be seen such as in freshly plowed fields, turfgrass/sod farms, and new sprouting grain fields, often in association with marsh areas and agricultural drains in the

Imperial Valley. With its range centered on the short-grass prairie, a region subject to heavy grazing and cultivation, the mountain plover has been drastically reduced in number.

This species was not observed on site, and from Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is regarded as low due to there being more suitable habitats, like those described above, in the western portion of the Project region. As such, the site is not regarded as preferred habitat and the occurrence of one of these birds on site would be that of an individual moving through the site during migration toward more suitable habitat areas.

- **Riparian Songbirds**: yellow warbler (*Dendroica petechia brewsteri*)
  State Status: Species of Special Concern
  Federal Status: None; southwestern willow flycatcher (*Empidonax traillii extimus*)
  State Status: None
  Federal Status: Endangered; yellow- breasted chat (*Icteria virens*)
  State Status: Species of Special Concern
  Federal Status: None; least Bell's vireo (*Vireo belli pusillus*)
  State Status: Endangered
  Federal Status: Endangered

  These birds are treated as a group because they share a commonality with regard to being associated with riparian habitat types such as the willow, cottonwood, salt cedar, and mesquite scrub thickets and woodlands that occur along the Colorado River. These species also occur during migrations and during translocational movements in similar habitats along the New and Alamo rivers, seepage areas along the Coachella Canal, and at the Wister Unit, and will also use desert wash scrub and woodland habitat. Due to the specificity of these birds to riparian habitat types, the potential for onsite occurrences are regarded as remote. The rare occurrence of one of these riparian birds on site would be that of a transient moving through the site between areas of more suitable habitat such as between the seepage areas along the Coachella Canal and the salt cedar/mesquite scrub habitats at the Wister Unit. As such, the site does not represent habitat for these species and it is expected that riparian birds moving through the Project region would be much more likely to follow the pseudo-riparian habitat along the East Highline Canal, along the Alamo River, and the patches of salt cedar that occur adjacent to waterbodies and in areas with a high water table.

  From Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potentials for the riparian songbirds yellow warbler, yellow-breasted chat, and the southwestern willow flycatcher are regarded as remote during transient movements because riparian scrub and woodland habitat is not present on site and there are other sites that are preferable in the greater regional setting of the Project Site. This determination should also be considered to apply to the least Bell's vireo which, it is noted, is not reported by the CNDDB for the Project region and, therefore, was not included in Table 6.3-2.

- **Black-tailed gnatcatcher** (*Polioptila melanura*)
  State Status: None
  Federal Status: None

  A tiny 4½-inch-long (11 to 13 cm) songbird that is gray above and whitish below. The male has a black crown during summer that extends to the eyes. It has a long black tail with narrow white edges and white tips on the outermost feathers. The winter male, female, and

juveniles are duller. Habitat includes deserts and arid country, frequenting desert wash scrub and woodland habitats and mesquite thickets in the low desert. This species is resident in southeastern California, Nevada, Arizona, New Mexico, Texas, and southward into Mexico. Females produce 3 or 4 pale blue, spotted eggs in a small, smooth cup nest placed in mesquite or other desert bush or a low tree. This species can be expected to commonly occur in the desert wash, Coachella Canal seepage, and Wister Unit mesquite thicket areas of the Project region. The Project Site, on the other hand, does not have these preferred habitat features and the occurrence of one of these birds on site would be that of an individual moving through the site during migration toward more suitable habitat areas.

- **Crissal thrasher** (*Toxostoma crissale [=dorsal]*)
  State Status: Species of Special Concern
  Federal Status: None (except USFWS Bird of Conservation Concern designation)

  The Crissal thrasher is a large (10½ to 12½ inch [27 to 32 cm]) dark thrasher with a deeply curved bill. It is brown above, with lighter gray-brown, unstreaked underparts, a dark "mustache" line, and yellowish eyes. Undertail coverts are chestnut brown. It seldom flies in the open, but moves furtively among streamside mesquite thickets, willows, and other tangles. This bird resembles the California Thrasher in its habit of gathering food by hacking the ground with its heavy curved bill, but their ranges do not overlap. Except during the hottest months and briefly after molting, it delivers its loud melodious song year-round. This species was once a fairly common permanent resident in mesquite brushland and densely vegetated washes in the Imperial and parts of Riverside counties and along the entire length of the Colorado River Valley in California. Today the Imperial and parts of Riverside counties populations have been reduced dramatically by removal of mesquite brushland and conversion of desert to agricultural fields. Colorado River populations have also declined but are still high in some areas. Again, removal of mesquite brushland and replacement of mesquite by introduced tamarisks is responsible. There are also small populations scattered elsewhere in the Colorado and Mojave deserts west to Anza-Borrego State Park and Morongo Valley and north to Shoshone, Inyo Company. These populations tend to be small and very local. Habitat destruction through removal of mesquite brushland for agriculture or replacement of mesquite by introduced tamarisks are the major threats in the Coachella, Imperial, and Colorado River valleys. Off-road vehicle activity in large washes with densely vegetated borders is the main threat to populations elsewhere in the deserts; in addition to actual physical degradation of wash habitats by off-road vehicles, the impact of loud noise on this shy species is probably considerable.

  From Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is regarded as discountable because suitable dense mesquite-ironwood-arrowweed-desert willow wash vegetation is not present on site.

- **Burrowing owl** (*Athene cunicularia hypugea [=Athene cunicularia]*)
  State Status: Species of Special Concern
  Federal Status: None (except USFWS Bird of Conservation Concern and BLM Sensitive designations)

  This owl is a small ground-dwelling bird with a round head and no ear tufts. They have white eyebrows, yellow eyes, and long legs. The owl is sandy colored on the head, back, and upperparts of the wings and white-to-cream with barring on the breast and belly and a

prominent white chin stripe. They have a rounded head, and yellow eyes with white eyebrows. The young are brown on the head, back, and wings with a white belly and chest. They moult into an adult-like plumage during their first summer. Burrowing owls are comparatively easy to see because they are often active in daylight, and are surprisingly bold and approachable. The adult morphological characteristics are typically: length 21.6 to 28 cm (8.5 to 11 inches); wingspan 50.8 to 61.0 cm (20 to 24 inches); and weight 170.1 to 214 grams (g) (6 to 7.5 ounces [oz]). Burrowing owls are generally active at dusk and dawn, but sometimes at night also. They are highly terrestrial, and are often seen perched on a mound of dirt, telegraph or fence post — frequently on one foot. They bob up and down when excited. Burrowing owls feed on a wide variety of prey, changing food habits as location and time of year determine availability. Large arthropods, mainly beetles, crickets and grasshoppers, comprise a large portion of their diet. Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds, such as sparrows and horned larks. Burrowing owls are primarily active at dusk and dawn, but will hunt throughout a 24-hour period, especially when they have young to feed. Unlike other owls, they also eat fruits and seeds, especially the fruit of Tesajilla and prickly pear cactus. During the nesting season, adult males forage over a home range of 2 to 3 square kilometers. Burrowing owls are able to live for at least 9 years in the wild and over 10 years in captivity.

The nesting season begins in late March or April. Burrowing owls are usually monogamous but occasionally a male will have two mates. Burrowing owls nest underground in abandoned burrows dug by mammals or, if soil conditions allow, they will dig their own burrows. They will also use man-made nest boxes placed underground. They often line their nest with an assortment of dry materials. Adults usually return to the same burrow or a nearby area each year. One or more "satellite" burrows can usually be found near the nest burrow, and are used by adult males during the nesting period and by juvenile owls for a few weeks after they emerge from the nest. Six to 9 (sometimes up to 12) white eggs are laid a day apart, which are incubated for 28 to 30 days by the female only. The male brings food to the female during incubation and stands guard near the burrow by day. The care of the young while still in the nest is performed by the male. At 14 days, the young may be seen roosting at the entrance to the burrow, waiting for the adults to return with food. They leave the nest at about 44 days and begin chasing living insects when 49 to 56 days old. It is this ground nesting that makes the owl vulnerable to injury and mortality by human-caused activities such as vehicle and equipment operation, farming practices, road building, etc. They are often killed by vehicles when crossing roads, and have many natural enemies, including larger owls, hawks, falcons, badgers, skunks, snakes, and domestic cats and dogs.

Burrowing owls are typically found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals, particularly prairie dogs, ground squirrels and badgers. In the Imperial Valley, they occupy burrows in a variety of places such as irrigation drain embankments, flood control and water impoundment berms, road berms, open edges away from active agriculture and other human activities, and even in hay bale stacks. They commonly perch on fence posts or on top of mounds outside the burrow. This species was formerly a common, even locally abundant, permanent resident throughout much of California, but a decline noticeable by the 1940s has continued through to the present time. The reasons for the decline include conversion of grasslands and pasturelands to agriculture and destruction of ground squirrel colonies. Assimilation of poisons applied to

ground squirrel colonies has probably also taken a toll. Their propensity for nesting in roadside banks also makes them particularly vulnerable to roadside shooting, being hit by cars, road maintenance operations, and general harassment (The Owl Pages 2006).

From Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is represented as "occurs". A burrowing owl burrow and pellets were observed at the Niland site at approximate GPS coordinates utm 11S 0640169 / 3679147 or N 33 14.636 / W 115 29.728. However, visual confirmation of owl presence could not be confirmed. Kevan Hutchinson from the Environmental, Regulatory & Emergency Planning Section of IID returned to the location on April 4, 2005, and used a fiber optic scope to inspect the interior. The results indicated that the burrow was occupied by a breeding pair and at least one egg was observed. The carrying capacity of the site is low relative to the agricultural areas located in the Imperial Valley. Mitigation for potential impacts to this species is presented in Section 6.3.4, Mitigation Measures.

- **Ferruginous hawk** (*Buteo regalis*)
  State Status: Species of Special Concern
  Federal Status: None (except BLM Sensitive designation)

  This hawk is regarded as a fairly common winter resident of grasslands and agricultural areas in southern California. As a migratory bird, it generally arrives in California in September and departs by mid-April. Throughout its range and in California, it typically frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. It generally searches for prey from low flights over open, treeless areas, and glides to intercept prey on the ground. It also hovers, and hunts from high mound perches. It eats mostly lagomorphs (rabbits and hares), ground squirrels, mice, and also takes birds, reptiles, and amphibians. Population trends may follow lagomorph population cycles. It roosts in open areas, usually in a lone tree or utility pole. It is tolerant of heat and nests often unshaded. There appear to be no breeding records from California. It breeds from Oregon into Canada with egg laying beginning in April. The clutch size ranges from 2 to 6, is mostly 4, with eggs incubated for about 28 days, and young fledge at 38 to 50 days. Rangewide observation of nesting includes in foothills or prairies; on low cliffs, buttes, cut banks, shrubs, trees, or in other elevated structures, natural or human-made. The nest tree is often isolated, or in a transition zone to adjacent foraging tracts. It requires large, open tracts of grasslands, sparse shrub, or desert habitats with elevated structures for nesting. It demonstrates a yearlong, diurnal activity pattern. However, in hot weather, it often hunts only in early morning and late afternoon. It tends to displace red-tailed and Swainson's hawks within its home range. The young may be preyed upon by golden eagles (*Aquila chrysaetos*) and great horned owls (*Bubo virginianus*). It requires areas with adequate prey populations because of competition with the numerous other avian and mammal species that prey upon small mammals.

  From Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is low because robust desert scrub and grassland habitats that support an adequate small mammal prey base is likely not present on site. Although the site may represent some limited potential foraging habitat for a regionally occurring individual, it would likely not rely upon the site preferentially to other areas that support greater rodent and lagomorph populations. It is noted that the CNDDB does not report occurrences of this

species in the Project region but they have been reported from elsewhere in the Imperial Valley, hence, this species is addressed in this section and in Table 6.3-2.

- **Colorado Valley woodrat** (*Neotoma albigula venusta*)
  State Status: No status
  Federal Status: No status

  The Colorado valley woodrat is a medium-sized woodrat with large ears, bulging black eyes and relatively short, distinctly bicolor tail (grayish brown above, white below), densely covered with short hairs; throat, and usually breast and chin, with hairs white to base; upperparts dull pinkish buff, brightest along sides, thinly suffused with blackish; underparts and feet white. External measurements average: total length, 328 mm; tail, 152 mm; hind foot, 34 mm. Weight, 136 to 294 g. It typically occurs in desert scrub with cacti or mesquite, with or without rock outcrops. It is mainly nocturnal and active yearlong. Abundance of woodrats is correlated with the abundance of suitable shrubs for supporting dens. It eats mainly succulent plant material such as cacti, mesquite, heads of composites, and some yucca, but little or no grass or animal matter. Water is obtained chiefly from succulent vegetation. Dens are of two types. In rocky areas, plant litter is piled around a crevice; favored materials include litter of spiny plants (cholla, prickly pear, mesquite, and catclaw), probably because of the added protection from predators they afford. The nest itself is located in the rear of the crevice. Dens also may be constructed against, or beneath shrubs, preferably shrubs or cacti having much cover near the ground. Such dens can become quite large, reaching 1 m (3 feet) high and 3 m (10 feet) in diameter. A grassy nest is located below the ground surface in these dens. Nests about 20 cm (8 inches) in diameter are constructed of grasses and other soft plant material. The interior of the nest is hollowed out for occupancy. The spiny fortress in which the house is located, coupled with the nocturnal habits of these animals, makes them relatively safe from most predators. Owls catch a few individuals, as do coyotes, bobcats, ringtails, and weasels but their chief natural enemies appear to be the large desert gopher snake and the rattlesnake, both of which can enter the houses of the woodrats with impunity.

  The range of the Colorado Valley woodrat is from southern Nevada, southeastern California, northeastern Baja California, to western Arizona. Historically, the range of this woodrat appears to have changed little, even though portions of the range are lost to agriculture and urban development. Colorado Valley woodrats (California subspecies of the white-throated woodrat) are found in a variety of habitats including low desert, pinyon-juniper woodlands, and desert-transition chaparral. Areas such as washes where organic debris gathers are particularly attractive. They are often found where prickly pear cactus and mesquite occur. In rocky areas, they prefer using crevices in boulders for cover and nest sites. The most important threats are the loss of habitat and reduction in habitat quality by removal of nest material such as cactus and woodland. Habitat quality could be reduced by fires or conversion to exotic annuals.

  This species was not observed on site, and from Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is discountable because cactus and mesquite habitats are not present on site. It is noted that the CNDDB does not report occurrences of this species in the Project region but they have been reported as historically occurring from elsewhere in the Imperial Valley, hence, this species is addressed

in this section and in Table 6.3-2, Potentially Occurring Special Status Wildlife Species in the Site Vicinity.

- **American badger** (*Taxidea taxus berlandieri*)
  State Status: Species of Special Concern
  Federal Status: None

  This large terrestrial mammal has a flattish body, wider than high, with short, bowed legs, a shaggy coat grizzled gray to brown and a short, bushy, yellowish tail. The face is dark brown or black with white cheeks. A narrow white stripe runs from above the nose over its head to the nape. The snout is pointed and slightly upturned. The ears are small. The feet are dark with large foreclaws. The male is larger than female. Badgers average 20 to 34 inches (521 to 870 mm) in length, 3 7/8 to 6 1/4 inches (98 to 157 mm) in height, and weigh 7 7/8 to 25 pounds (lb) (3.6 to 11.4 kilogram [kg]). Mating usually occurs July–August with implantation delayed until February. A litter of 1 to 5 young is born typically March–April. Well furred, but blind at birth, the young are weaned by June. Burrows or dens are central to the badger's existence; it uses its many dens for sleeping, giving birth, and food storage. An active badger uses different dens nearly every day, except when young are present. Records show that one badger dug a new burrow each day in summer, reused one den for several days in autumn, and used a single den through most of the winter. Dens have one entrance, with a pile of dirt just outside that may serve as a latrine area. This powerful burrower is basically nocturnal but is often active by day, waddling about and occasionally moving at a clumsy trot. Its home range varies from about 590 to 4,200 acres (240 to 1,700 hectares [ha]). The home range of the male is larger and encompasses the ranges of several females. Although primarily terrestrial, the American Badger swims and even dives, and on hot days sprawls in shallow water to cool off. It buries its droppings and cleans itself frequently, swallowing loose hair licked from its coat.

  American badgers occur from northern Alberta southward to central Mexico. They range from the Pacific Coast eastward through Ohio. They are absent from the humid coastal forests and from other regions with dense forests. In California, badgers ranged throughout the state except for the humid coastal forests of northwestern California in Del Norte County and the northwestern portion of Humboldt County. Badger populations have declined drastically in California within the last century. They have been extirpated from many areas in southern California. Deliberate killing probably has been a major factor in the decline of badger populations. Most people regard badgers as detrimental to their interests and attempt to kill them. Land conversion for agricultural production is adverse to badgers, as they do not survive on cultivated land. Agricultural and urban developments have been the primary causes of decline and extirpation of populations of badgers in California. Rodent and predator poisoning pose double threats through direct and secondary poisoning of badgers and elimination of the food badgers are dependent upon. However, badgers are regarded as valuable in controlling rodent populations in agricultural areas. Shooting and trapping of badgers for animal "control" is another source of mortality. No current data exist on the status of badger populations in California, but they have obviously declined or disappeared in large sections of the state, particularly areas west of the Cascade-Sierra Nevada mountain axis and in coastal basins of southern California.

  In California, badgers occupy a diversity of habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas,

and mountain meadows near timberline are preferred. Badgers prey primarily on burrowing rodents such as gophers (*Thomomys* spp.), ground squirrels (*Spermophilus* spp., *Ammospermophilus* spp.), marmots (*Marmota* spp.), and kangaroo rats (*Dipodomys* spp.). They are predatory specialists on these rodents, although they will eat a variety of other animals, including mice, woodrats, reptiles, birds and their eggs, bees and other insects, etc. It is reported that badgers will break open bee hives to eat both the brood and honey and they regularly dig out nests of bumble bees.

This species was not observed on site, and from Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity, the occurrence potential is discountable because sufficient prey base (burrowing rodents), friable soils for den sites, and open undisturbed areas are not present on site.

- **Nelson's bighorn sheep** (*Ovis canadensis nelsoni*)
  State Status: None
  Federal Status: None (except BLM Sensitive and USFS Sensitive designations)

  The desert bighorn sheep have a solid, stocky, and muscular body on short legs. The horns can weigh as much as 30 lb (14 kg). Their muzzle is narrow and pointed, while their ears are short. They have very acute eyesight which helps them gage distances when jumping from rock to rock. Their sharp-edged cloven hooves are elastic and concave. The males, or rams, have huge brown horns with horizontal ridges that curl back over the ears, down and up again past the cheeks. The females, or ewes, have smaller horns that never get larger than half a curl. Bighorn sheep have a double-layered skull honeycombed with bone struts to protect their brains during their impressive head-banging battles. Thick tendons link the skull and spine to help recoil from the impact. The rams weigh from 119 to 127 kg, and measure 160 to 180 cm from head to tail. Ewes weigh 53 to 91 kg and are approximately 150 cm long. Ewes and rams usually gather in same sex groups, and go their separate way when they are not breeding. During the summer lamb-rearing season ewes stay in the upper levels of the mountains. In late fall and early winter the rams will gather up to 12 ewes into a harem. They don't defend territories, but battle other males over mating access to the females. Rams will charge each other and smash their heads together in impressive and loud battles. Age and the size of its horns determine the dominant status of a ram. Males usually don't mate until they are seven years old. The average life span of a desert bighorn is approximately 9 years. Most sheep live for more than 10 years, except when they become overcrowded, in which case their life span is only 6 to 7 years. The females are led by an older ewe. Young females will usually stay with their mother's group, but the males leave when they are 2 to 4 years old to join a group of rams. Desert bighorns have a long lambing season. In the Mojave Desert it begins in December and ends in June. A few lambs are even born during the summer as well. Mating can last from July to December. Their gestation time lasts about 174 days. They will have from 1 to 3 lambs. The females will choose a steep and safe area for the birth and raising of the lambs. The lambs are able to quickly follow their mother after only a week. Within a few weeks the lambs gather in small bands of their own, and search out their mothers only to suckle. They are completely weaned by 4 to 6 months. A disease has been documented in Mojave and Sonoran desert bighorns which results in high death rates for lambs from pneumonia. This disease can continue for several years and results in large population declines. Bighorns are ruminants, which allow them to digest grass, even when it is dried out. They are mostly diurnal and will feed on and off

throughout the day on a large variety of plants. They eat grasses, sedges, and forbs. They will also browse on shrubs and trees like the desert ironwood when their preferred food is scarce. The desert bighorns need water about every three days in the summer. Some wildlife refuges construct artificial water holes. However, desert bighorn sheep get a lot of their moisture from the food they eat. The preferred habitat is steep slopes on, or near mountains, with a clear view of the surrounding area. They have excellent eyesight and can spot predators from a long way off. They live in small pockets of dry desert mountain ranges, foothills near rocky cliffs, and water when it is available. They exist in a barren, mostly waterless environment in the Mojave and Sonoran deserts on the North American continent. The Rocky Mountain bighorns and the desert bighorns of the Mojave and Sonoran deserts are descended from the wild sheep of Central Asia. Before the last ice age, the ancestors of North America's bighorn sheep crossed the Bering land bridge from Mongolia and Tibet (Blue Planet 2006).

This desert sheep is widely distributed from the White Mountains in Mono County to the Chocolate Mountains in Imperial County, although the latter are regarded as marginal habitat for desert sheep. The population is estimated as about 120 individuals. The competition with burrows for available forage and water is considered to be severe. This sheep is most associated with the rocky slopes and canyons of the Chocolate Mountains, mostly in the northwest end and central portions of the range. They are almost entirely dependent upon natural tanks for water, although individuals do visit the eastern side of the Coachella Canal to obtain drinking water. The canal likely constitutes an effective barrier to wide-range movement because they are not reported on the western side of the canal. The Project Site offers no water and forage resources, nor is it a likely corridor for sheep movement. As such, the potential for onsite occurrence is discountable.

6.3.1.3 Methods

Methods included a literature review and a field survey. Data from USFWS, CDFG, and CNPS databases, resource agency Web sites, existing regional environmental documents, and species life history and range distributions discussions from field guides, were used to determine the potentially occurring special-status species in the Project region and on the Project Site. A process of elimination was employed for many of the species known to occur in habitats in the greater regional setting of the Project Site that are greatly dissimilar from the conditions on the Project Site. For example, several categories of special status species that are associated with the aquatic and marsh habitats of the Salton Sea, and the farmland irrigation and drainage system of canals and drains, and other such habitat types, were reviewed but were eliminated from inclusion in this section. Also, it is noted that a representative of a special status species may occur at a given location in the Imperial Valley, including the Project Site, as a transient during movement between more suitable habitat areas. For example, riparian birds such as least Bell's vireo, yellow-breasted chat, western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and southwestern willow flycatcher may occur on site very rarely as transients; however, this does not suggest that the site constitutes suitable or preferred habitat for these species in a regional context, and development at the site will have no impact upon them. The field survey assessed the site conditions for the presence or absence of special status species and the habitat components that sustain their life cycles.

Literature Search

As part of the biological resources characterization study for the sites, a literature search was conducted. Prior to conducting field surveys, office investigations were performed to gather existing information on sensitive botanical and wildlife species that are known or that could occur in the vicinities of the Project Site. The office investigation included reviews of: (1) available literature; (2) the reports from the CDFG CNDDB; the California Native Plant Society Inventory On-line (CNPS 2006); (4) IID Water Conservation and Transfer Project, Habitat Conservation Plan (IID 2002); and (5) other biological resources and land use information obtained from the Internet. A list of was prepared based on the literature search.

The review of available literature included standard species field guides and floras including: Powell & Hougue (1979), Stebbins (1985), Peterson (1990), Jameson and Peeters (1988), Abrams and Farris (1960), Hickman (1993), Crampton (1974), and Munz (1974).

Habitat Reconnaissance Surveys

URS Corporation (URS) senior biologist Donald Mitchell conducted habitat reconnaissance surveys of the Project Site and in the immediate vicinity of the site on March 31, 2005. The assessment of adjacent areas was also conducted as an office exercise utilizing the TerraServer aerial photography resource on the Web (TerraServer 2006) to view the land use setting of the Project Site and Project region. These surveys focused on identification of habitats potentially utilized by special-status plant and animal species, potential wetlands, and other sensitive natural communities within 1 mile of the site.

It is noted that the adjacent areas were not rigorously assessed on the ground because: (1) similarities in habitat attributes and structure on site (i.e., open dry land with sparse cover of shrub species) to those in adjacent areas that may serve as attracting factors for sensitive wildlife species are readily apparent; and (2) the proximity of onsite features and habitats to similar ones in the adjacent areas is assumed to provide translocational opportunities. In other words, it is known that burrowing owls occur in the Project region and, therefore, the likely reasons for the fact that it occurs on the Project Site is due to (1) and (2).

Based on the results of these surveys, and the assessments of the habitat attributes on the Project Site to sustain the life history parameters of the special status plant and wildlife species under consideration in this section, additional focused surveys were not considered to be warranted.

CNDDB survey forms — including the California Native Species Field Survey Forms and California Natural Community Field Survey Forms describing sensitive biological resources in the Project area, will be submitted to the CDFG for any resources that are identified during these surveys.

Natural Community Classification and Mapping

On March 31, 2005, URS biologist Donald Mitchell conducted vegetation classification and mapping at the Project Site. A natural community classification and mapping, as well as the areas of the existing substation facility, disturbed ground (including a storage area for transmission pole sections), and drainage features, are depicted in Figure 6.3-2, Vegetation Map. Land uses in the Project region include areas of mostly non-native (i.e., weed) vegetation, agricultural production, homesteads, non-native species (e.g., tamarisk and oleander) plantings

for windrows and hedges, and other disturbance areas. The data collection method at the Project Site included a tour of the facility grounds conducted by IID staff. Parallel transects were walked at 30-foot intervals to provide a 100 percent visual coverage of the site grounds.

Botanical Survey Methods

Focused plant surveys and habitat suitability assessments for the special status species identified in this report were conducted concurrently with the natural community classification and mapping described above. In addition, based on the land use patterns in the Project region, a habitat suitability assessment of areas 1-mile out from the Project Site was also conducted to provide some indicators if the areas adjacent to the site could be capable of supporting rare plants and, therefore, provide a potential source of propagules for site colonization.

Wetland Survey Methods

It is noted that the Project Site does display hydrologic features that constitute drainages that were likely continuous with watercourses that occur within watersheds to the east and north of the Coachella Canal on the Chocolate Mountains Gunnery Range. The natural drainage patterns of the Project region, from sources in the Chocolate Mountains to discharge in the Salton Sea, has been altered by the Coachella Canal and the East Highline Canal, and as such, the site drainages constitute relicts of the historic hydrology with lesser potentials for flow capacity and sediment conveyance and deposition. However, these drainages may be regarded as desert ephemeral streams that are considered by the Corps to be subject to their jurisdiction as "waters of the United States." The receiving waters, the Salton Sea, is considered by the Corps to be navigable waters with an interstate commerce federal nexus (e.g., recreational boating and fishing), and the onsite watercourses would be regarded as tributaries to regulated waters. However, these are xeric, erosional, hydrogeologic features that do not display indicators of wetland hydrology, hydric soils, nor a prevalent hydrophytic flora and, therefore, do not constitute wetlands. If any such wetland features on the site would have been observed, they would have been subject to a jurisdictional delineation and determination based on the technical criteria and procedures described in the USACE 1987 Wetland Delineation Manual (Environmental Laboratory 1987).

Similarly, CDFG pursuant to Sections 1600-1616 of the Fish and Game Code would have discretion to make a determination that these ephemeral watercourses are state waters subject to regulation. The CDFG does not restrict exercising regulatory authority to watercourses that are indicated as so-called "blue-line streams" on USGS topographic maps, and has been known to display a wide range of opinion on a case-by-case basis regarding what they consider to be waters of the state.

6.3.1.4 Biological Resources on the Project Site and One Mile Out

The Project Site is located northeast of the Town of Niland on Property owned by IID. The property occurs in the N1/4 of Section 3, T.11.S., R.14.E, partly on both the Niland and Iris USGS 7.5-minute series quadrangles. The property is predominately natural, open, sparsely vegetated land, with disturbed land and a developed substation facility in the southwestern corner. The property is predominately undisturbed native soil. The property is relatively flat having a gradual approximately 1 percent decreasing grade from northeast to southwest. The

elevation of the property is approximately 105 feet bsl. The south half of the property is zoned M1U and the north half of the property is zoned A2. Acceptable M1U zoning uses include "electric power generation," although a CUP is required for construction activities. Site improvements are limited to the southwest quadrant of the property where the existing Niland Substation is located in the extreme southwest corner of the property. Within a 1-mile radius of the site, the land use is primarily agricultural production, residential community, homestead, rail transportation, county and city roadway infrastructure, utilities (natural gas line and electrical line) infrastructure, irrigation water supply infrastructure, and other types of unused and open space land. Overall, the biological resources of the site are more likely to have ecological similarities with those occurring in the open natural desert areas to the northeast and less so with the species assemblages that are adapted to the human-created land uses.

Vegetation Communities

The relatively undisturbed desert Sonoran scrub communities are located east of the valley floor at the approximate limits of the East Highline Canal.

The vegetation, ground disturbance, and infrastructure features of the site are mapped in Figure 6.3-2, Vegetation Map. There is land disturbance associated with an existing IID substation and a storage area for transmission line tower parts located in the southwesternmost quarter of the site. However, the majority of the Niland site is in a relatively natural condition and vegetated by a mixed Sonoran creosote bush scrub and desert saltbush scrub vegetation type (Holland 1986). The dominant shrub species are generally widely spaced and include creosote bush, shadscale, allscale, desert thorn, and burro-weed. Within the open areas between the shrubs, annual plantain (*Plantago ovata*), red-stemmed filaree (*Erodium cicutarium*), and Mediterranean grass (*Schismus* sp.) are the dominant low-growing herb and grass stratum species that occur. A stand of salt cedar occurs along Cuff Road. Other plant species observed are red brome (*Bromus rubens*), bush encelia (*Encelia frutescens*), and annual sowthistle (*Sonchus oleraceus*). A thumbnail description of adjacent areas within 200 feet of the site includes:

- North: Contiguous natural vegetation.
- East: Cuff Road, rural residential, disturbed grounds.
- South: Beal Road, natural vegetation, disturbed grounds.
- West: Contiguous natural vegetation, disturbed grounds.

Wildlife

The Niland site is mostly in a natural condition with contiguous areas of native habitats in the four compass directions within a 1-mile radius. The site is considered to have approximately equivalent habitat resources values as those habitats of a similar type in the general area and, therefore, about the same potential to support wildlife species. As such, it is not expected that there are any wildlife species that would occupy the site preferentially to the adjacent areas. There are no species of bats that are expected to use the site. With the exception of burrowing owl, ground burrows that would indicate the presence of resident coyote, desert kit fox, and American badger were not observed on the site. Table 6.3-3, Wildlife Species Observed on the Project Site, March 31, 2005, presents a complete list of wildlife observed during the March 31,

2005 survey. The location of special status wildlife observations (e.g., burrowing owl burrow) on the Project Site are shown in Figure 6.3-2, Vegetation Map.

Special Status Species Potentially Occurring within the Project Site and One Mile Out

Plants

No federal or state special-status plant species were observed on the Project Site during the survey. The absence of sensitive plant species observations is believed to be due to a general absence of suitable onsite habitat conditions and human-caused reductions in historic range distributions due to several factors related to land disturbance (e.g., hydrological alteration, off-road vehicle, fires, etc.), and not due to poor germination attributable to unfavorable climatic conditions since rainfall was plentiful in 2005. Plant species that are documented in the CNDDB to have occurred in the region of the Project Site are presented in Table 6.3-1, Potentially Occurring Special-Status Plant Species in the Site Vicinity, and information is provided regarding sensitivity status, closest documented locations of occurrences, year of known occurrence, and assessments of potential for occurrence on site. All of the plant species in Table 6.3-1, except for Abrams's spurge, are assessed to have an occurrence probability ranking of discountable for the Project Site. An assessment of discountable occurrences is projected for the portion of the Project region that includes the Imperial Valley agricultural area since suitable habitats to sustain these species are not present. No additional surveys for special-status plant species are considered necessary for the Project Site.

Wildlife

With the exception of the burrowing owl burrow (later confirmed by IID staff to be occupied) that was observed at the Project Site, and the American kestrel that flew over the site, no federal or state special-status wildlife species were observed during the surveys. Wildlife species that are documented in the CNDDB to have occurred in the region are presented in Table 6.3-2, Potentially Occurring Special-Status Wildlife Species in the Site Vicinity. Information is provided in the table regarding sensitivity status, closest documented locations of occurrences, year of known occurrence, and assessments of potential for occurrence on site. It is noted that most of the species records included in Table 6.3-2 are assessed to have discountable, low, and transient potentials for occurrence at the Project Site.

Federal and State Jurisdictional Waters

Site hydrogeological features include a few low-gradient, northeast-to-southwest trending, ephemeral drainages that are likely relicts of the historical geological condition that predates agricultural and irrigation water supply developments in the early part of the 1900s. These features can be seen in Figure 6.5-1, Geology Map. Most of these drainages occur in the eastern three quarters of the Property. Construction activities in the Project Site will avoid these drainages.

6.3.2 Environmental Consequences

Potential Project impacts to biological resources were evaluated to determine permanent and temporary effects of Project activities associated with construction, operation, and maintenance of the Project. The discussions below are presented in a two-fold manner: (1) to address

potential impacts to biological resources as a general overview; and (2) to address potential impacts to the biological resources (i.e., sensitive species) that have been and/or are considered highly likely to be associated with the Project Site and/or its immediate vicinity. As such, significance level determinations are provided for both categories, as appropriate.

It is noted that Project impacts pertaining to a substantial loss of site-specific and regionally available foraging habitat for raptors, owls, and other birds, as well as for terrestrial mammals are not identified in association with development of the 22-acre Project Site within the Property. Similarly, potential impacts pertaining to the substantial loss of open space available for movement and migration of terrestrial and avian species across the Property as a consequence of development of the Project, are not identified. As such, these factors are regarded as not significant and are not addressed further in this section.

6.3.2.1 Project Site

Construction Impacts

Construction of the Project could result in potential temporary impacts to biological resources on site and in the immediate vicinity. Potential impacts that are evaluated in this section include:

- Noise from facility construction.
- Fugitive dust from facility construction.
- Use and discharge of water during construction.

Noise from Facility Construction

Impact BIO 1. Noise and Wildlife Species

Temporary noise disturbance on site and in the immediate vicinity of the construction site during construction can be expected. During the construction activities, additional traffic-related noise is anticipated, particularly in association with heavy-duty trucks transporting construction materials. Noise-generating equipment will be used at the site which would affect noise levels in areas near the Project Site. The equipment may include earth-moving and facilities-assembly equipment (e.g., front loaders, backhoes, tractors, compactors, rollers, crane vehicles, etc.), generators, and compressors. The noise levels for such equipment can often reach or exceed 85 dBA at 50 feet.

With the possible exception of onsite burrowing owls (see Impact BIO-2, below), noise and activity from construction are not expected to substantially affect the current level of wildlife usage (e.g., foraging, roosting, loafing, breeding, and/or movement and migration) on the Project Site or adjacent to the site. The Project Site is assessed, overall, to represent low quality habitat for the range of wildlife species that occur in the Project region, with large tracts of better quality habitats associated with areas of natural desert scrub habitat on the Chocolate Mountains Gunnery Range, seepage areas along the Coachella Canal, and the Wister Unit. Therefore, noise from site construction is **not considered a significant impact** to biological resources that may occur as residents and/or as transients moving across the site and no mitigation is proposed.

Impact BIO 2. Noise and the Burrowing Owl

Because burrowing owls are known to be resident on the Project Site, an increase in the levels of noise associated with construction activities may constitute a potentially significant impact if the noise results in displacement of these birds from the site and/or abandonment of a nest and brood. Under such a situation, this may be considered a **potentially significant impact** to these individuals; however, it is noted that the impact would not represent an appreciable jeopardy to the continued existence of this species either in the Imperial Valley or rangewide. Furthermore, the observed burrow location is over 200 yards to the east of the proposed facility construction area, and this species is somewhat tolerant of human activities. Mitigation to reduce this potential impact to a level of less than significant is specified as Mitigation Measure BIO-1 in Section 6.3.4 Mitigation Measures.

Fugitive Dust from Facility Construction

Impact BIO 3. Fugitive Dust and Wildlife Species

Potential impacts from fugitive dust generation to biological resources is not anticipated during Project construction. The Project Site and vicinity are within an area that is not environmentally sensitive and the Imperial Valley itself is frequently subject to windstorms and dust devils that stir up dust. There will be only minor incidental and temporary dust generation during construction because it will be controlled through construction mitigation (see Section 6.1, Air Quality). Areas to be used for construction laydown and parking are not expected to require any substantial grading. Therefore, dust generation from site construction is **not considered a significant impact** to biological resources and no mitigation is proposed.

Use and Discharge of Water During Construction

Impact BIO 4. Construction Water and Special Status Wildlife Species

Use and discharge of water during construction will be limited, and will be restricted to the approximate 26-acre disturbed area and will have no impact upon the remainder of the Property. Therefore, use and discharge of water during construction is **not considered a significant impact** to biological resources and no mitigation is proposed.

Federal and State Jurisdictional Waters

Impact BIO 5. Corps' Section 404 and CDFG Section 1600-1616 Jurisdictional Waters

Based on design for the Project, the potential for impacts to federal and state jurisdictional waters that occur on the Property would be avoided. The grading and drainage design will utilize stormwater swales excavated along the north and east borders of the facility site to intercept surface flow and direct it through open channels to new storm water retention basins that will be located along the west and south edges of the Project Site. Stormwater collected in the retention basins will evaporate and infiltrate into the subsurface. Site grading directs stormwater away from the equipment and buildings into these swales. Therefore, since the property drainages will be avoided, potential impacts to federal and state jurisdictional waters is **not considered a significant impact** and no mitigation is proposed.

Operations and Maintenance

Operation of the Project would result in potential impacts to sensitive biological resources at the site and habitats adjacent to the site. Potential impacts that are evaluated in this section include:

- Noise from operation of the facility.
- Stormwater discharge to adjacent wetlands or sensitive habitats.
- Use and discharge of water during operations.
- Maintenance activities for fire and weed control.
- Illumination of Project Site.

The following subsections describe and evaluate these potential impacts.

Noise from Facility Operations

Impact BIO 6. Noise and Wildlife Species

The Project Site is located in an open space ecological setting. Operation of the facility would produce some noise as described in Section 6.7, Noise. Noise and activity from facility operations are not expected to substantially affect the current levels of native and non-native wildlife usage activities (e.g., foraging, roosting, loafing, breeding, and/or translocations) on the Property. It is unlikely that the types of wildlife species currently using the Property, including the borrowing owl, will be impacted by the ambient levels of noise and activities on the facility site during facilities operation for the life of the facility and, therefore, will not likely be displaced from the remainder of the Property or will avoid the property during translocational movements. Noise associated with operation of the facility is also not considered likely to substantially affect wildlife use in the Project vicinity. Therefore, noise from Project operations is **not considered a significant impact** to biological resources and no mitigation is proposed.

Stormwater Discharge

Impact BIO 7. Storm Water Discharge and Habitats and Wildlife

The Project grading and drainage design utilizes stormwater swales along the north and east borders of the Project Site to intercept surface flow and direct it through open channels to stormwater basins where water will evaporate and infiltrate into the subsurface (see Figure 2.2-6, Site Grading and Drainage Plan). Site grading directs stormwater away from the equipment and buildings into these swales and ditches. The unlined stormwater basins are located along the west and south sides of the Project Site. The total area of retention basins is approximately 2.3 acres, with an approximate total volume of 395,000 CF. As such, stormwater will be directed away from facilities and, thereby, have low potential for conveying potential pollutants and, furthermore, will not discharge to receiving waters because they will be retained on site. Therefore, stormwater discharge from facility operations is **not considered a significant impact** to biological resources and no mitigation is proposed.

Use and Discharge of Water During Operations

Impact BIO 8. Water Use and Discharge and Habitats and Wildlife

An existing Niland potable water main runs diagonally from the northeast to the southwest across the northern half of the property. A lateral to serve the power plant will connect to the GSWC water line along the west boundary of the property and runs south, then east to the northwest corner of the Project Site. The lateral is approximately 700 feet long. The Project process water needs are limited to demineralized water injection for power augmentation. As compared to other similar plants, this Project uses a minimal amount of water through the incorporation of engineered features, primarily the use of:

- A dry low NO_x combustion system to eliminate water injection.
- An air-cooled chiller to eliminate the need for a cooling tower.
- Chiller coil condensate recovery and reuse.

The Project produces a negligible process wastewater stream. Equipment drains such as CTG waterwash and fuel-gas compressor liquid drains are collected in sumps for offsite disposal. Contact stormwater is contained, directed to the oil/water separator, and then discharged to the stormwater retention basin. Sanitary sewage is discharged to a facility equipped with a cistern/holding tank for periodic removal, as required. As such, the overall potential impact to biological resources (including habitats and wildlife) is **not considered a significant impact** and no mitigation is proposed.

Maintenance Activities for Fire and Weed Control

Impact BIO 9. Weed and Fire Control and Habitats and Wildlife

Maintenance activities may include disking and herbicide application within the Project Site for fire and weed control. These activities disturb the topsoil and most plant life cycles. Due to the existing highly disturbed condition of the site, there is very low potential for the occurrence of small mammals, snakes, and other species that could occupy underground burrows and be adversely affected by soil disturbance. As such, disking the site is not considered likely to reduce populations of small animals on the site. Similarly, no substantial reduction in prey species and, therefore, a reduction in the amount and quality of raptor forage habitat on site and in a regional context, are expected. Current IID weed abatement practices include use of non-ALS herbicides that are approved for use by the USFWS. Due to the unlikely occurrence potentials for special status plants, herbicide application is not considered likely to represent an adverse affect. Therefore, maintenance activities for fire and weed control **is not considered a potentially significant impact** to biological resources including special status plants and wildlife, and no mitigation measures are proposed.

Disturbance from Illumination of Project Site

Impact BIO 10. Illumination and Wildlife Behavior

The lighting system for the Project will provide personnel with illumination for plant operation under normal conditions, means of egress under emergency conditions, and emergency lighting

to perform manual operations during a power outage of the normal power source. The lighting system for the Project will also be designed and installed to meet OSHA minimum standards while keeping light emissions to a minimum.

Exterior building lighting will be placed to offer maximum illumination of operating work areas in compliance with OSHA standards while minimizing offsite illumination. Lighting on the stacks will point downward to reduce avian collisions. Light associated with operation of the plant is not likely to substantially affect wildlife use in the Project vicinity. Therefore, illumination for the Project is **not considered a significant impact** to biological resources, especially with regard to affecting wildlife behavior, and no mitigation is proposed.

6.3.3 Cumulative and Residual Impacts

The Project will be constructed adjacent to the existing Niland Substation in an area that has been assessed as low quality wildlife habitat with no associated biological sensitivity in a regional setting context. This action is not considered to constitute an incremental reduction in the value of habitat available to native wildlife species within the Imperial County region.

Through the implementation of the mitigation measures in this section, the Project would not be expected to result in significant cumulative impacts to special status plant and wildlife species, natural plant communities and associated habitat values for wildlife, nor to movement and migration routes for terrestrial and avian species of wildlife. Upon implementation of the mitigation measures in this section, any impacts identified as potentially significant would be reduced to a level of less than significant. As such, the residual impacts associated with this Project are regarded as less than significant.

6.3.4 Mitigation Measures

Mitigation measures are identified and described in this section for the species-specific impacts identified under Section 6.3.2.1, Project Site, which received an assessment of "potentially significant." In addition, several general mitigation measures are also provided that address means to mitigate potential indirect impacts that could affect the biological resources of the site.

Species-Specific Mitigation Measures

Mitigation Measure BIO 1. Construction Noise and the Burrowing Owl

The following mitigation measures are recommended to reduce or eliminate impacts to the burrowing owl during the construction phase of the Project.

The Project will implement one or more of the following suggested courses of action to minimize potential affects to burrowing owls:

- Monitor owl activity at the Project Site; establish a 500-foot set-back from active burrows, and implement construction activities to occur outside the breeding season (February 1 through August 30) within those established areas.
- Monitor owl activity at the Project Site; follow the protocol for burrowing owl burrow closure specified in *Appendix D, Procedures for Removing Burrowing Owls*, in the *IID*

Water Conservation and Transfer Project Final Environmental Impact Report/Environmental Impact Statement Habitat Conservation Plan, June 2002.

General Mitigation Measures

Mitigation Measure BIO 2. Construction Monitoring

Provide mitigation construction monitoring by a qualified biologist. The biologist will be given authority to execute the following functions:

- Conduct preconstruction surveys for sensitive species in impact areas.
- Establish construction exclusion zones and make recommendations for implementing erosion control measures in the temporary impact areas.
- Provide worker environmental awareness training for all construction personnel that identifies the sensitive biological resources and measures required to minimize Project impacts during construction and operation.
- Prepare construction monitoring and compliance reports that analyze the effectiveness of the mitigation measures.

6.3.5 Laws, Ordinances, Regulations, and Standards

LORS and permits applicable for protecting the biological resources are provided in Table 6.3-4, LORS and Permits for Protection of Biological Resources. Through the agency consultations, Project modifications, and mitigation measures, the Project will conform to all applicable LORS for protection of biological resources.

TABLE 6.3-4
LORS AND PERMITS FOR PROTECTION OF BIOLOGICAL RESOURCES

LORS	Purpose	Regulating Agency	Permit or Approval	Schedule and Status of Permit
Federal				
Endangered Species Act of 1973 and implementing regulations, Title 16 USC §1531 et seq. (16 USC 1531 et seq.), Title 50 CFR §17.1 et seq. (50 CFR 17.1 *et seq*.).	Designates and protects federally threatened and endangered plants and animals and their critical habitat.	USFWS	Through the Sections 7 and 10 processes issues Biological Opinion with Conditions or approval after review of Project impacts and mitigation measures.	No potential "take" of listed\ endangered\ threatened species identified. No permit required.
Section 10(l)(A) and Section 10(l)(B) of the federal Endangered Species Act	Requires a permit to "take" threatened or endangered species during lawful Project activities. If no federal nexus for Project, a Habitat Conservation Plan (HCP) may be necessary.	USFWS	USFWS issues a Section 10(l)(A) Federal Fish and Wildlife Permit and/or HCP approval.	No potential "take" of listed\ endangered\ threatened species identified. No permit required.

TABLE 6.3-4
LORS AND PERMITS FOR PROTECTION OF BIOLOGICAL RESOURCES

LORS	Purpose	Regulating Agency	Permit or Approval	Schedule and Status of Permit
Section 404 of Clean Water Act of 1977 (33 USC 1251 *et seq*., 33 CFR §§320 and 323).	Gives the USACE authority to regulate discharges of dredge or fill material into waters of the U.S., including wetlands.	USACE	Corps issues a Section 404 permit, including a nationwide permit or an individual permit for actions that result in a fill or discharge to federal jurisdictional waters of the U.S.	Not applicable as jurisdictional waters will be avoided.
Section 401 of Clean Water Act of 1977	Requires the applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	RWQCB	Water Quality Certification for discharges to waterways. Includes stormwater discharge NPDES permit. See Section 6.13, Water Resources, for a discussion of potential water quality impacts and permitting requirements.	Agency approval to be obtained before construction. See Section 6.13, Water Resources, for a discussion of potential water quality impacts and permitting requirements.
Migratory Bird Treaty Act (MBTA) 16 USC §§703-711	Prohibits the non-permitted take of migratory birds, as specified at 50 CFR Part 10.	USFWS	Issues guidance after Project impact assessment review.	Will implement Mitigation Measure BIO-1 for the burrowing owl, and thus mitigate impacts under the MBTA.
State				
California Endangered Species Act of 1984, Fish and Game Code, §2050 through §2098.	Protects California's endangered and threatened species.	CDFG	Issues guidance after Project impact assessment (CEQA) review.	Agency approval to be obtained before construction; however, no potential issues identified.
Title 14, CCR §§670.2 and 670.5.	Lists plants and animals of California declared to be threatened or endangered.	CDFG	Issues guidance after Project impact assessment (CEQA) review.	Agency approval to be obtained before construction; however, no potential issues identified.

TABLE 6.3-4
LORS AND PERMITS FOR PROTECTION OF BIOLOGICAL RESOURCES

LORS	Purpose	Regulating Agency	Permit or Approval	Schedule and Status of Permit
Fish and Game Code Fully Protected Species. Includes: §3511: Fully Protected birds; §4700: Fully Protected mammals; §5050: Fully Protected reptiles and amphibians; §5515: Fully Protected fishes	Prohibits the taking of species listed as Fully Protected in California.	CDFG	Issues guidance after Project impact assessment (CEQA) review. Note: there is no legal means whereby take of California Fully Protected species may be authorized by CDFG.	Agency approval to be obtained before construction. No potential "take" of any fully protected species identified.
Fish and Game Code §1930, Significant Natural Areas	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitats.	CDFG	Not applicable – no significant natural areas in the area of potential affect of the Project Site construction and/or operation.	Not applicable.
Fish and Game Code §1580, Designated Ecological Reserves	The CDFG commission designates land and water areas as significant wildlife habitats to be preserved in natural condition for the general public to observe and study.	CDFG	Not applicable – no designated ecological reserves in the area of potential affect of the Project Site construction and/or operation.	Not applicable.
Fish and Game Code §1600-16, Streambed Alteration Agreement	Protects the natural flow, bed, embankment, and riparian resources of state rivers, streams and lakes.	CDFG	"Streambed Alteration Agreement" for permitting impacts to state jurisdictional waters.	Not applicable as jurisdictional waters will be avoided.
Native Plant Protection Act of 1977, Fish and Game Code, §1900 *et seq*.	Designates state rare and endangered plants and provides specific protection measures for identified populations.	CDFG	Reviews mitigation options (CEQA review) if there will be significant Project effects on threatened or endangered plant species. Not applicable – no rare plants on site.	Not applicable. No potential issues identified.

TABLE 6.3-4
LORS AND PERMITS FOR PROTECTION OF BIOLOGICAL RESOURCES

LORS	Purpose	Regulating Agency	Permit or Approval	Schedule and Status of Permit
Public Resource Code §§25500 & 25527	Siting of facilities in certain areas of critical concern for biological resources, such as ecological preserves, wildlife refuges, estuaries, and unique or irreplaceable wildlife habitats of scientific or educational value, is prohibited, or when no alternative, strict criteria are applied.	CDFG	Reviews mitigation options (CEQA review) if there will be significant Project effects on threatened or endangered plant species and issues approval. Not applicable to Project Site.	Not applicable. No potential issues identified.
Title 20 CCR §§1702 (q) and (v)	Protects "areas of critical concern" and "species of special concern" identified by local, state, or federal resource agencies within the Project area, including the CNPS.	CDFG	Reviews mitigation options (CEQA review) if there will be significant Project effects on threatened or endangered plant species and issues approval. Not applicable to Project Site.	Not applicable. No potential issues identified.
Title 14 CCR Section 15000 *et seq*.	Describes the types and extent of information required to evaluate the effects of a Project on biological resources of a Project Site.	CDFG	Reviews mitigation options (CEQA review) if there will be significant Project effects on threatened or endangered plant species and issues approval.	Agency approval to be obtained before construction. However, no potential issues identified.

Notes:
CCR = California Code of Regulations
CDFG = California Department of Fish and Game
CEQA = California Environmental Quality Act
CFR = Code of Federal Regulations
CNPS = California Native Plant Society
LORS = laws, ordinances, regulations, and standards
MBTA = Migratory Bird Treaty Act
NPDES = National Pollutant Discharge Elimination System
RWQCB = Regional Water Quality Control Board
U.S. = United States
USACE = United States Army Corps of Engineers
USC = United States Code
USFWS = United States Fish and Wildlife Service

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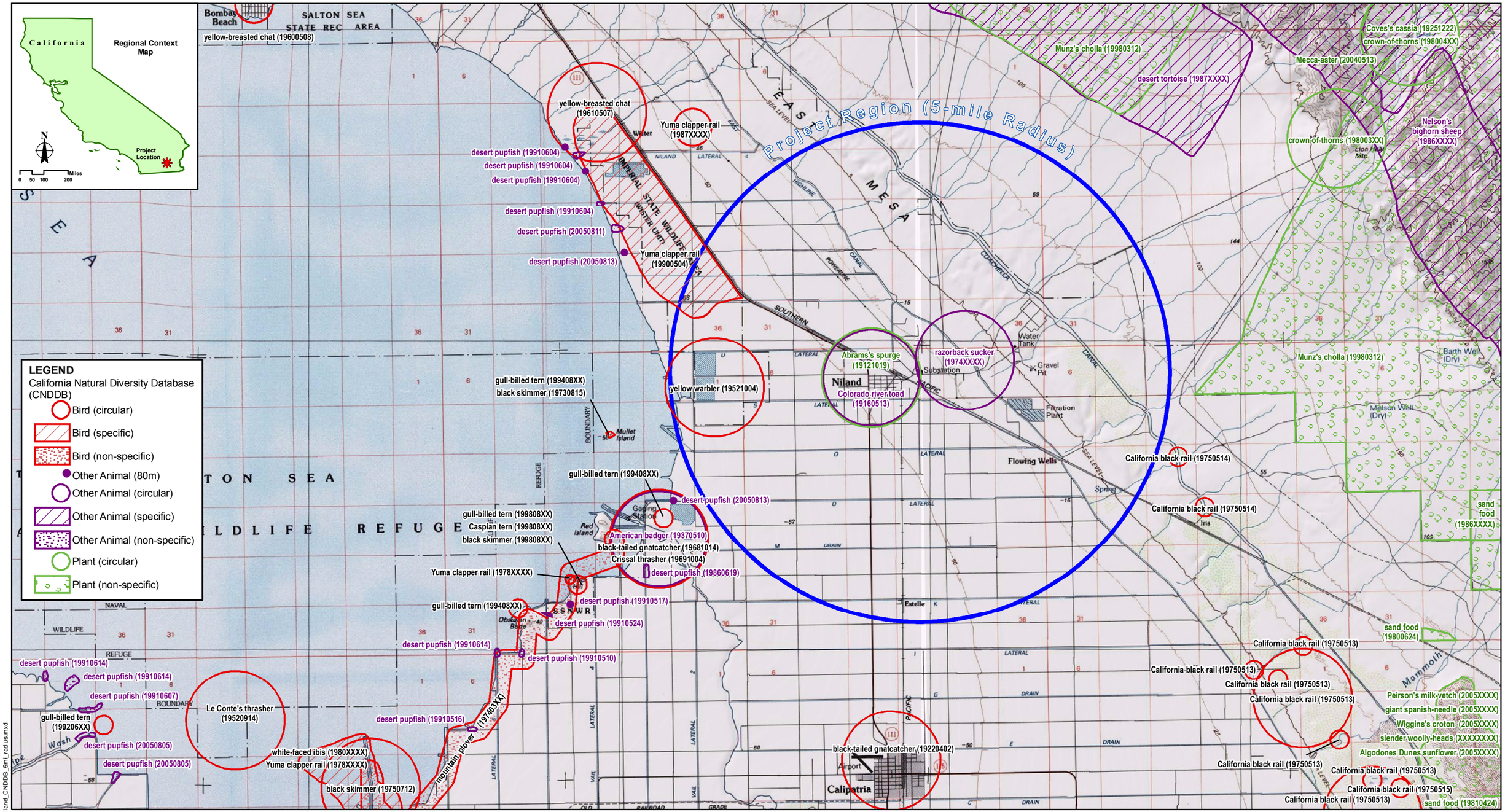

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SOURCES:
California Natural Diversity Database (CNDDB, DEC-12-2005)
U.S. Geological Survey 1:100,000-scale topographic maps
(National Geographic Seamless USGS Topographic Maps on CD-ROM, Powered by TOPO!)

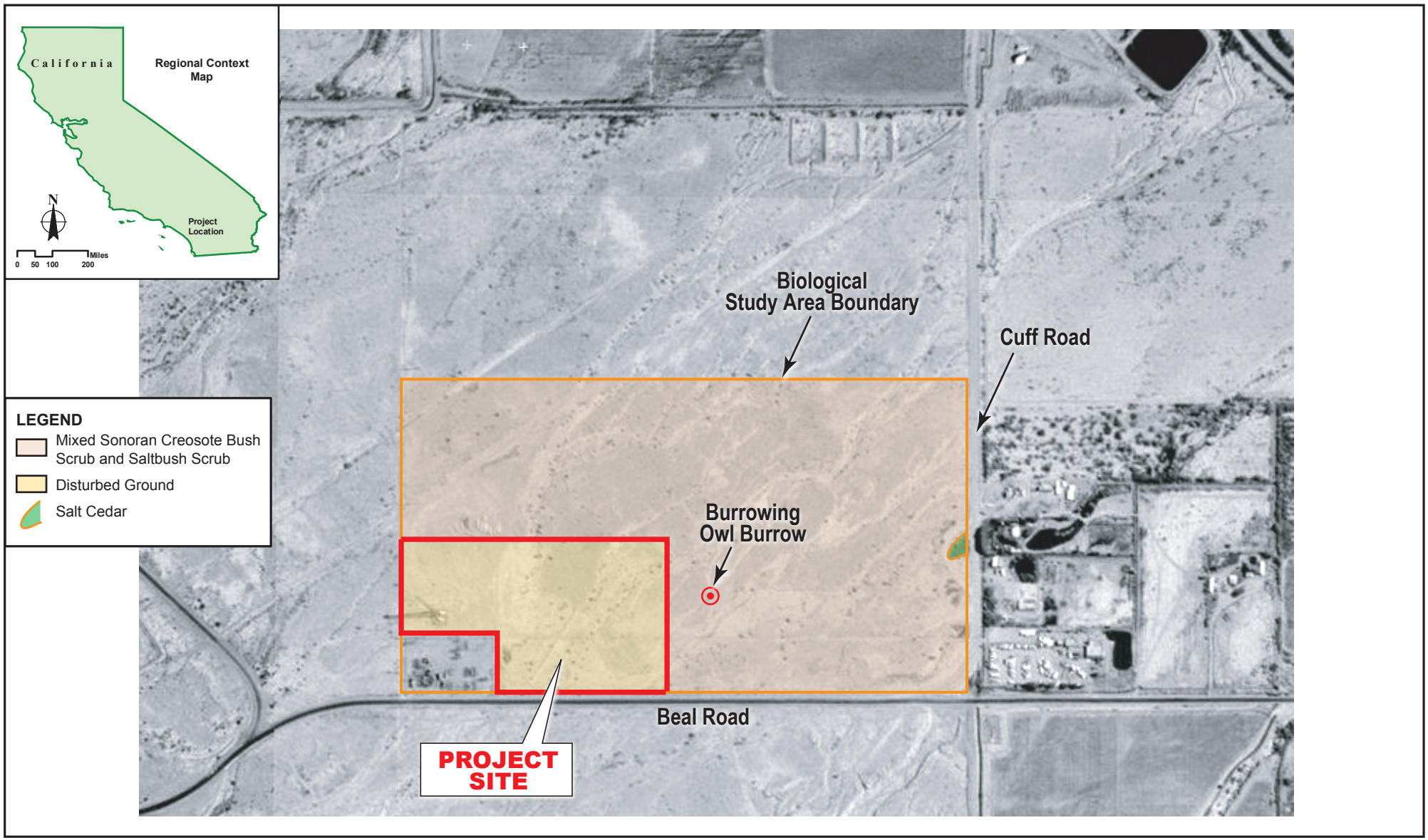
California Natural Diversity Database

Niland Gas Turbine Plant
Imperial Irrigation District

URS

FIGURE 6.3-1

T:\Ladd\ElCentro\405-088A



Source:
TerraServerUSA
2 km East of Niland, CA
Dated 6/8/2002

Vegetation Map

Niland Gas Turbine Plant
Imperial Irrigation District

URS

FIGURE 6.3-2